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EDITED BY M. V. O'SHEA

FITTING THE SCHOOL TO THE CHILD

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FITTING THE SCHOOL TO THE CHILD

An Experiment in Public Education

BY

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New York City

AND

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Member Board of Examiners, Board of Education, New York City
Formerly Principal Public School 64

New York
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PREFACE

THE experiment described in this book was, briefly stated, an attempt to make the school fit the child. It was carried on in one of the largest elementary schools in New York City, attended daily by 3,000 pupils. It was not merely a problem of finding space and sittings for this large number of children. We believed it possible to create a school environment in which the child himself could feel that he belonged.

The experiment covered the period from September, 1916, to January, 1922. Its conclusion at this date was due to the introduction of the junior high school into the New York City system, which has led to a radical alteration in the character of many elementary schools. Among those affected by the change was Public School 64, the home of the experiment described in this book. Its excellent shop equipment made it a desirable building for the type of work projected by the junior high school organization, and it was therefore decided to take over the premises for that purpose. The lower grades were shifted to schools near-by, so that eventually only the upper grades remained. With this change of character, Public School 64 became no longer available for an experiment which emphasized the earliest possible study of the school child; its special problems had changed. For this reason, the experiment was transferred to a school for young children at 535 East 16th Street.

In the meantime, the experiment had progressed sufficiently to justify a recapitulation and a detailed record. It seemed

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that the time had come to relate the story of the pioneer work which had been done, to give an account of the successes and failures encountered in specific directions. To give such a survey is the purpose of this book.

The basis of the experiment was a program of coöperation between Public School 64, Manhattan, and the Public Education Association of New York City. The writers wish to acknowledge their indebtedness to Mr. Howard Nudd, Director of the Public Education Association, whose loyal support and educational vision have been indispensable elements in their coöperative plan; to Miss Jane Culbert, Executive of the Visiting Teachers' Staff, who has been affiliated with the experiment as a close adviser and whose valuable counsel has assisted the staff in overcoming many obstacles and discouragements incidental to the undertaking; and to Emily Leonard Brown, who, during three years has, as a visiting teacher, brought to the experiment a unique understanding of personal problems growing out of the family situations or school maladjustments of the children under consideration. Mrs. Brown has specialized on mental adjustment cases and has worked in close connection with Dr. George M. Parker, the psychiatrist; Miss Regina C. Burke, formerly Assistant Principal of Public School 64 and now Principal of Public School 39, the Bronx, has contributed to our combined endeavor her genius for organization and her open-minded and experimental attitude. Without the help of all the teachers in the school and of the school officials, the experiment would never have assumed the practical form outlined in the following study.

To conduct a grading experiment in so large a school necessarily required an extensive amount of psychological testing and research work. The regular staff had the constant assistance of advanced students from Teachers College and Columbia University, whose services in the aggregate amounted to the full-time work of several persons.

Dr. George M. Parker has given his services two mornings every week to psychiatric work, in the belief that through the study of the emotional trends of children, we should be able in time to make suggestions regarding the universal needs of children which the present school courses are not attempting to meet.

Dr. J. L. Stenquist, of the Department of Reference and Research of the Board of Education, has made an extensive though brief study of mental and pedagogical tests in this school, in order to obtain data for recommending certain tests throughout the system for similar experiments. This study was concerned with group tests intended for the classification of children in large numbers. We shall have occasion to refer to this study in one of the later chapters.

Miss Elizabeth Farrell, Inspector of Ungraded Classes, has coöperated in a generous and sympathetic spirit with the experiment by the creation of special observation classes for young children, and classes for neurotic children.

Toward the latter period of the experiment, the resources of the school were increased by the addition of a full-time vocational counselor, Miss Cornelia Beall. The Vocational Guidance Bureau initiated the work which was later strengthened and extended by the amalgamation of the Vocational Guidance Bureau and the State Employment Service for Juniors. This organization has maintained vocational counselors in nine public schools, of which Public School 64 is one. Its recent specialization as a junior high school had made the contribution of the vocational counselor an indispensable part of the school activities.

The most important experiment in the school in actual modification of curriculum was directed by Mrs. Marietta

Johnson of the School of Organic Education, Fairhope, Alabama. Mrs. Johnson visited our school weekly, raised the necessary budget for her experiment, provided her own equipment and supplies, and furnished the salary of a specially trained teacher for a year. Several of the regular teachers have undertaken experiments on their own initiative under her direction. A more specialized study of curriculum was undertaken by the assistant psychologist, Miss Zena C. O'Connor, toward the end of the experiment.

An effort toward the enrichment of the curriculum was made possible by the coöperation of a number of social agencies. The Neighborhood Art School of Greenwich House, although in a different part of the city, loaned two teachers for a year and a half to work with the classes of bright children. Mrs. Harriet Ayres Seymour's Music School contributed for one year the services of Miss Marjorie Kneeland for these classes. The work done in art and music was much more extensive than anything of the kind undertaken by the regular school department, and offered a happy opportunity for the creative spirit of this group of gifted children. Of equal significance was the course in natural science, conducted by Miss Laura Garrett. It was her inspiration that led to the establishment of the animal room as the best medium for this type of science teaching. A further extension of our teaching resources was made possible through the assistance of members of the Junior League, who aided the experiment as tutors and teachers of French.

Valuable assistance has been given by the Boys' Club, under the leadership of Mr. Louis C. Downer. This club occupies a seven-story building just across the open square from Public School 64. Without access to the splendid gymnasium and swimming pool of this club, and without recourse to its facilities for club work, summer outings, and personal attention to special cases, we should have been greatly handicapped in our experiment. It would have been impossible without this coöperation to carry out at least half of the recommendations of the psychiatrist, since these were largely concerned with proper after-school activities. We had the use of the Boys' Club for a number of classes during school hours as well, and thus we were able to achieve, partially at least, an extension of facilities such as every city public school should in some way possess. Similar support was given by Miss C. I. McCall of Christadora House, a settlement adjacent to the school. The gymnasium of the settlement house has enabled the school to make up partly for its own lack of equipment. In addition, a Boy Scout group has stood ready to receive members recommended by the school for this type of activity. Christadora House has loaned its music room for special classes in music, and has allowed the use of its club rooms daily for tutoring, testing, and class work. It has also done extensive summer work for individual children, and during one season took care of all the children from the nutrition classes for an entire summer.

The Children's Aid Society, which maintains a school building just around the corner from Public School 64, generously donated classroom space for special classes. The experiment with a group of normal children was carried on here for one year. The class for cardiopathic children was initiated and grew to its full size under the hospitable roof of this Eighth Street building. The sympathetic coöperation of Miss Emma Sinn as Principal of the Children's Aid School contributed very largely to the homelike atmosphere which helped these classes to thrive from the beginning.

The Tompkins Square Branch of the New York Public Library has given special attention to the needs of the classes for bright children. It has been possible to plan class work on the basis of a permanent supply of reference works and other books near at hand.

The coöperation of hospitals and dispensaries should be especially acknowledged. Yet health work within the school has remained the most limited aspect of the experiment. The regular routine of the Board of Health has been, unfortunately, of such a character as to be of little practical assistance in really studying the health of the children. So far as any constructive aid could be secured, we were obliged to limit its benefits to selected groups. The Eye Clinic of the Board of Health is located in the school and has done a great deal in the way of examining the children of the entering classes and in following up those who required glasses. Dr. Robert Kahn, the physician in charge, has given unstinted service to this work.

Dr. L. A. Leichter, a dentist practicing in the neighborhood, has given several mornings a week to the children of the school. His efforts have been centered upon the nutrition group and the Terman classes.

The Department of Physical Education of the Board of Education has also coöperated on special problems. Dr. Harry I. Goldberger of this department has given his services as a pediatrist in the individual examination of special groups of children, including the nutrition classes.

The nutrition experiment was carried out in the school for two years and a half by the Bureau of Educational Experiments. While essentially intended as a piece of research work, it also had practical benefits. A description of this experiment has been published by the Bureau of Educational Experiments in a volume entitled *Health Education and the Nutrition Class*.

Through the assistance of Dr. Robert H. Halsey, Secretary of the Association for Prevention and Relief of Heart Disease, it was possible to establish the special classes for cardiopathic children, a valuable and unique contribution to the health education of the public school system. The Children's Aid Society provided a room for these classes, the Board of Education supplied the teacher, a trained nurse was secured from the Henry Street Settlement, and a salary for her services was contributed by the Public Education Association.

To the generous coöperation of the Commonwealth Fund we owe the services of Katharine Anthony, who has given editorial assistance in the production of this record of the experiment.

The experiment from the beginning has been directed and supported in all of its aims and efforts by the Public Education Association of New York City.

Especially do we wish to acknowledge a deep and abiding indebtedness for scientific guidance in the work of classification to Professor Lewis M. Terman of Leland Stanford University. Without the researches of Professor Terman and his stimulating suggestions for educational applications, our experiment would never have been attempted. We are especially happy in paying tribute to this conscientious scholar, who has consistently followed a high standard of professional candor in the acknowledgment of his own intellectual debts. By reference to Professor Terman's works, where full credit is given to the creative investigations of Alfred Binet, we can most adequately acknowledge our own obligations to the great French pioneer in dynamic psychology.

E. A. I.
L. A. M.

MARCH, 1924.

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FOREWORD

The following story of an experiment in grading children in one of New York City's largest public schools — an experiment conducted over a period of years — has many interesting aspects.

The purpose in view and the methods utilized are fully presented in the text itself and require no extended comment here. The aim was two-fold. It was sought to ascertain, as accurately as possible with existing measurements, the mental and physical capacities of the children as they entered school. On the basis of this information and of supplementary data regarding the forces which were affecting the welfare of the children, in and out of school, an effort was made to adapt educational experiences to individual needs. The measures adopted and the success achieved naturally were conditioned by the public school situation and the degree of coöperation that could be secured from the home and from community resources.

As the project was begun at a time when efforts in this direction were comparatively new, many interesting and baffling trails had to be blazed. The fact that the experiment was conducted in a large school in the largest public school system in the country, with all the problems such a situation inevitably presents, made the work unusually exacting but proportionately significant to the broad field of public education. Conditions had to be faced and met as they arose from day to day, and always the machinery of a large school organization had to be given due weight and consideration.

The experiment is quite as significant, however, as a demonstration of how an unofficial organization of citizens can coöperate with the educational authorities in furthering the welfare of the public schools. The school staff and the staff provided by the Public Education Association, with the additional coöperation they were able to enlist, have shown clearly how a great public school can be administered to function more effectively for the children.

The task undertaken in this experiment is by no means completed. In fact this account of the work in Public School 64, Manhattan, may be regarded as but an opening chapter in the movement toward dealing with the pupil as a child. Its appearance at this time is actuated by a two-fold purpose:

First, it is believed that a recital of the trials and achievements in this particular experiment will be stimulating and helpful to those who are conducting or contemplating work with a similar purpose elsewhere.

Second, the reorganization of Public School 64 as a junior high school made it advisable to transfer the experiment to another school where the fundamental purpose of the work could properly be carried out. As has been indicated, this purpose was to ascertain the children's capacities and their problems at the very beginning of their school life, rather than after they had drifted along for several years. Because of the obvious necessity for this transfer to another elementary school, it seemed that a logical point had been reached for taking account of stock and for presenting to those who might be interested the history of the preceding years in evolving the procedure. The experiment is now being continued as an annex to Public School 61, Manhattan, located at 535 East Sixteenth Street and known as the "Little Red School House."

The Public Education Association takes this occasion to thank the school authorities for the opportunity to coöperate in making possible this illuminating experiment, and to acknowledge the assistance received from many sources. Most of this assistance is indicated in the Preface and in the course of the following narrative. But, at this point, we wish to acknowledge particularly the generous financial assistance of the Commonwealth Fund. This help has made possible not only the preparation of the present volume, but also the enlarged staff which the Association is now enabled to provide for continuing the experiment in untouched fields revealed by the earlier work at Public School 64.

Howard W. Nudd, Director,
Public Education Association of
the City of New York.

March, 1924.

EDITOR'S INTRODUCTION

During the past two decades, an enormous amount of experimental work has been undertaken by American psychologists and educators for the purpose of developing serviceable methods for determining the intellectual capabilities of individuals, particularly of children of school age, and also for the purpose of devising ways and means of measuring achievement in school work. The data derived from all this experimentation has been presented in written form in books and magazines and in oral form at psychological, educational, and parent-teacher association meetings. Practically all that has been written and spoken on the subject of measurement of intelligence and achievement has been concerned with the presentation of evidence relating to the validity of measuring scales and educational tests, and with arguments stressing the desirability and the necessity of employing measuring scales in diagnosing the mental characteristics of pupils with a view to grading them accurately in school work. Those who have been conducting investigations have been conscious of a widespread belief that pupils of the same age in school do not differ markedly in capacity or in needs, either in respect to intellectual training or to management. Investigators have, therefore, thought it necessary to impress upon teachers and also upon parents and others who are responsible for the care and culture of the young that in a group of children of the same age there are likely to be important differences in intellectual power and emotional traits, which differences require that the individuals concerned be treated somewhat differently while they are undergoing educational training.

Recent educational books and periodicals and even newspapers and popular magazines are burdened with complaints relating to the apathy of teachers and parents in respect to the problem of differentiating children and dealing with them according to their capacities and their temperamental and energic characteristics. There has also been a vast amount of literature published during the last few years which has had for its aim the convincing of the public that we are now in possession of means of determining with a considerable degree of accuracy what a pupil is capable of accomplishing intellectually and whether he is achieving in his school work up to the full measure of his capacity.

In all this written and oral discussion relating to the adoption of psychological methods in organizing and conducting schools and in dealing with individual pupils in accordance with their capacities and needs, there is very little that shows concretely and convincingly how these methods can be utilized in typical public schools having all sorts and conditions of pupils. There are but few and incomplete reports of efforts that have been made to conduct schools in accordance with the requirements of psychological diagnosis of the pupil population. As these lines are being written there are rumors that certain school systems are to be administered henceforth on the basis of intelligence and educational tests. Newspapers are saying that several cities have decided upon a reorganization of their schools with a view to utilizing the results of that development of useful methods of diagnosing mental traits and powers which has taken place during the past two decades; but, thus far, there has been no impressive account of an actual experiment on a large scale showing how a school can be conducted on the basis of intelligence and educational tests and giving the results of a thoroughgoing application of accurate measurements in determining the treatment best suited to individual pupils.

The present volume shows how a large public school in New York City with an extremely complex pupil clientele, has been reorganized and administered in view of the results of recent investigations showing wide variation in the physical and psychological constitution of children of the same chronological age. Miss Irwin and Mr. Marks undertook this difficult task several years ago. They first made a survey of their pupil population, and the results of this survey are presented in Chapter II of the present volume. The account of their experiences in the utilization of psychological tests for diagnostic purposes and of how the results affected the organization of the school and the classification and treatment of the pupils is illuminating. It is also fascinating as told by the investigators.

Perhaps the most interesting and important phase of the story relates to the remedial treatment of children who had not been favored by nature or who were not fortunate in the environmental circumstances of their lives. Probably no teacher can read this story without realizing the importance of the questions to which the authors of this volume undertook to find an answer and without a feeling of gratitude for the contribution they have made toward the solution of problems which confront everyone who is responsible for the conduct of a school or a classroom. It is not too much to say that the life and work of Public School 64 were transformed as a consequence of the adoption of the psychological methods employed by Miss Irwin and Mr. Marks — methods which could be easily used in almost any school provided they were directed by an equal intelligence. The authors have made it more evident than it has perhaps ever been made heretofore that when pupils are dealt with according to their capacities and needs rather than according to formulæ established and applied without any regard to native differences in mental and physical constitution, the spirit and temper of the school, as well as its pedagogical achievement, will be greatly improved because teachers will be working *with* and not *against* nature.

The authors of this volume are endowed beyond most educational writers with a gift of clear and graceful expression. They have aimed to present the results of an elaborate and complex educational experiment in terms that the non-technical reader can understand and in a style that he can enjoy. The editor believes that the authors have had unusual success in the accomplishment of their task. The illustrative figures and tables in this volume are fitted into the story in such a way that even persons who shudder at the sight of a table or a graph can assimilate what is presented without serious inconvenience.

It may be predicted that anyone, whether teacher or layman, who will read this volume will conclude that it is possible to organize and conduct a school today with the aid of accurate measures of intelligence and achievement with far greater success than has been possible with less modern methods — success, in the sense of fitting the school to the pupils rather than of attempting to make the pupils adapt themselves to a school program determined *ab extra* with but slight reference to the varied traits and capabilities of those whom the school is designed to educate.

M. V. O'Shea

The University of Wisconsin
March, 1924.

FITTING THE SCHOOL TO THE CHILD

FITTING THE SCHOOL TO THE CHILD

CHAPTER I

INTRODUCTION

The use of psychological and standardized tests in public education is a self-evident outcome of scientific progress. Like many practical applications of modern science, it has been slow to establish itself within our public schools. Up to twelve years ago, there were no typewriters in the administration offices in New York City and not without a struggle were they acquired. Only within the last seven years has the telephone been in use in these offices. At present, the installment of adding machines is going on, and tomorrow we shall wonder how we ever did without them. Who would think of trying to run a city school today without telephones and typewriters? Who would think of trying to get along without the school nurse, although her resources were unknown to us fifteen years ago? The whole public high school movement in New York City has taken place within the last thirty years, yet high schools ceased to be an innovation almost as soon as introduced. In the same way, the use of scientific tests is a convenience which, once used in connection with the educational process, is rapidly assimilated as a permanent and indispensable instrument.

The resistance of the public schools to any innovation accounts only in part for the neglect of psychology by educators.

The typical laboratory psychologist of the past has been too little interested in real children and too much inclined to be satisfied with a synthetic specimen of his own. The technique of mental measurements has been in process of development for more than a decade. Their efficiency was accepted in the scientific world several years before any wide practical application was made. This first occurred in connection with the problems of children who deviated extremely from the normal. In selecting children who required institutional care and treatment, it was found that the standardized mental tests afforded very definite aid. They were also used in clinics and in selecting children for special classes. The first time they were used, however, in classifying a large school and in analyzing the curriculum was in connection with the experiment which forms the subject of this study. So far as it has assisted in the establishment of scientific methods in the schools, it has promoted a mutual and much-needed service between psychological research and public education.

In the pages that follow, an account is given of the methods by which this experiment in classification and analysis was carried on. The types of treatment used with varying groups and individuals are discussed and results are indicated where this is possible. While essential and important technical details are introduced, the effort has been to offer a discussion that will carry a definite message, not to educators alone, but to all who are interested in bettering the educational opportunities of children and who desire for the youth of today a finer and fuller emotional and intellectual life than has been possible in the past.

In recent years it has become a truism to say that the school should fit the child rather than that the child should fit the school. We have come at last to admit that there are individual differences in children which make it impossible for them all to progress at the same rate. All the changes made to meet this situation, however, have been based upon the tacit assumption that the standard curriculum of the elementary school was the true measure of the normal child, and that any child who did not fit was in some way inferior or afflicted. Certain provisions were gradually made within the school system for the definitely handicapped. They took the form of classes for the mentally subnormal and for those with physical disabilities — the blind, deaf, crippled, those with cardiac defects, etc.

The establishment of special classes for children with physical disabilities was originally dictated by humane considerations and was in fact often directly due to the efforts of welfare societies outside the school. The classes for mental defectives, although originating within the school system, were at first regarded as an expedient for the welfare of normal children. The defectives were segregated for the same reason that bruised apples are taken out of one barrel and put into another, for the sake of the sound apples that are left behind. Although this was far from the point of view of their originators, it was the idea which made headway with the public and the school authorities, by whom the special classes were accepted as a receptacle for "seconds." Their true educational value was not at first generally recognized. It consisted in the simple but significant fact that here for the first time, the school was consciously trying to study the human material in its hands and to adapt the school program to the actual limitations of the pupil. In time we shall see that this spirit must underlie the education of all the children in the schools and not that alone of the small minority of the immature and handicapped.

The obligation imposed upon the public school by our compulsory education act has never been fully appreciated. The first compulsory education law of New York was passed in 1894. Few of us in New York City realize that, within the memory of most of our present principals, the child came to the public school as a petitioner. "Where do you live?" the principal might ask. If the reply was, in such and such a street which happened to have a bad name, the principal might then dismiss the applicant, by saying, "We have no place for you." The school existed for selected pupils. It narrowed the educator's task by a process of elimination which is no longer lawful, and simplified the problem to a degree which is no longer possible.

The tendency of the compulsory education law since its first adoption has been steadily to extend the span of its control without at the same time increasing the school's appreciation of its responsibilities. The compulsory school life of the New York child has been almost doubled within the last quarter of a century. Beginning with a rigorous requirement of attendance between the ages of ten and twelve, followed by conditional working papers, it was extended at the upper limit to fourteen years and at the lower to seven. The present law raises the working-paper age to fifteen years for all those who do not graduate at fourteen, besides requiring attendance at continuation school up to eighteen years. The enforcement of the school law has grown correspondingly more strict, so that the claim of the school upon the child's attendance has become more and more peremptory.

This power creates a responsibility of a complex nature, not to be wholly discharged by the mere provision of adequate "sittings." The public school is not simply a place where a child is compelled to "sit" for eight years, although this seems to be the current view and in far too many instances corresponds to the facts. So long as the child has no alternative but to attend school, we should strive to make it *his* school in the sense that it adapts itself to his educational needs. We must accept the logical consequences of compulsory education and devote ourselves to the science of child nature with the same devout respect and exactness of technique which we have hitherto reserved for geography and arithmetic. The primary aim of the public school should be the conservation of the human material over which it has been given such mandatory powers.

Let us not forget that truancy on the part of the pupil is punishable by the imprisonment of parents. Would it not be more logical if the teacher were subject to arrest for not making the child want to come to school rather than that the parents should be punished for not making the child attend against his will? This is by no means the absurd suggestion it will doubtless seem to most school teachers and officials. There is a grave responsibility inherent in our own compulsory education system which has never been sufficiently recognized and accepted.

The public school is an influence only secondary in importance to the stock which produces the child and the family which begins his education. The successes and the failures of adult life have their origin in the years over which home and school join in a monopoly of control. Almost any adult individual distinguished by great achievement or degraded by crime will testify to the truth of this. The school, which holds so much of the future within its grasp, cannot with impunity become a perfunctory institution instead of a place of intelligent educational effort. Everyone is now agreed that an institution is no substitute for the home; for the same reason, the institutionalized school is no substitute for a personal and individual school life. As babies die in institutions for lack of personal love, so children suffer in school for lack of the inspiration that comes from being regarded as persons with individual traits and affectionate relationships.

Let us acknowledge at the outset that there are difficulties in the way. To individualize every child so that his special needs may be understood and met is no slight undertaking. The tendency of public education is toward larger schools and crowded classes. We live in a period which regards quantity production as justified by common sense and principles of sound economy. It is only natural that mass education should be considered as highly desirable from the economic point of view. Sometimes we seem to forget that a child is a vital, growing thing not comparable to any factory product whatsoever. Perhaps the day may come when a greater knowledge of the economy of human nature may enable us to adjust the size of our educational groupings on that basis rather than on the present basis, which is solely that of the economy of public funds.

In the meantime we must face conditions as they are and recognize the difficulties which confront the teacher. For her the individual child is doubly obscured; in the first place, by the fact that he is one of too many children, and in the second place, by the curriculum which obstructs the view. These are very real obstacles. It is useless to exhort the teacher to consider the individual child without giving any practical procedure for doing so.

There are definite objective aids to the better understanding of a child in the form of physical and mental tests. The introduction of such tests and of an experimental staff to apply them affects the atmosphere of the school appreciably. The teachers all want help not only in solving their problems but in seeing them. The presence of a psychologist to measure intelligence, of a visiting teacher to present the family angle, and of a psychiatrist to contribute his findings — all this makes it worth while to the teacher to study the peculiarities, disabilities, and superiorities of her children. When the children are grouped in such a way that the grosser differences of intelligence are removed, the teacher becomes more observant of differences in character and personality. Every failure in discipline, scholarship, and social adjustment is seen in a new light. It becomes possible to discover, if not always to solve, a large number of problem cases before they have grown to be anything more than a family matter; that is, before they have become truancy or delinquency cases.

In a school where everyone is concerned merely with pedagogical progress, the teacher quite naturally feels that the personal problems of a child are not a sufficiently worthy and dignified subject for study and attention. Yet the intelligence of both teacher and pupil are surely to be as properly applied to the problems of living as to the specialized attack on pedagogical tasks. Already we have come to speak of school work as something artificial because it seems to have so little relation to the child's future life. The real problem, however, is how to make the child's school work a part of his contemporary life and to effect for his welfare a lasting reconciliation between lesson-learning and experience.

CHAPTER II

THE HOME OF THE EXPERIMENT

The experiment of which this account has been written was carried on in a public school situated on the lower East Side of New York. The children came from a typical tenement district of Manhattan; that is, a neighborhood where ten to twenty families are housed beneath the same roof, and sunshine and fresh air are correspondingly subdivided. In spite of congested conditions, however, the standard of living is on the whole much better than in many other districts of Manhattan where the state of congestion is much less intense. Although poverty and delinquency are found, they are not characteristic of the neighborhood. Lawlessness in general is not prominent, and truancy does not assume the discouraging proportions reached in some other districts. The local atmosphere is one of hopeful striving such as we should expect of a vigorous immigrant population.

Parents are ambitious for their children, and it is no uncommon occurrence for whole families to unite in making sacrifices in order that one member may have a better education than the others. Evidence of the extent of this ambitious spirit exists in the large quota sent to high school by Public School 64 — the school in which was carried on the experiment to which this book relates.

At the end of the term which concluded the experiment, the proportion of eighth grade graduates entering secondary schools throughout the city was 61.7 per cent; of the graduates of Public School 64, the proportion at the same time was 84 per cent. While several influences within the school may have helped to raise the percentage above the average for the city, the chief credit doubtless goes to the aspiring spirit of the neighborhood, where every mother wants her boy to be "something high."

The neighborhood from which the children come is practically homogeneous as regards nationality, economic status, and religion. The parental generation is predominantly foreign-born; nearly all the parents have come from homes in Eastern Europe and still preserve many common traditions and customs. There are practically no recruits from Western Europe. The nationalities immediately surrounding the school are Russian, Austrian, Polish, and Hungarian. These families dwell together in a segregated community with a special transitional culture. It is a colorful blend of foreign customs and American habits. The large group of Italian parents indicated in the table on page 10 means that the school overlaps the Italian community on the north where a singularly segregated culture is maintained, with its own occupations, markets, and festivals. Outside of the school, the two groups do not intermingle.

NATIONALITIES

The table on page 10 shows the nationalities of the parents of 1000 children attending Public School 64. It is based on data collected by the vocational counselor from the children of the upper grades, that is, the seventh and eighth, and comprises one-third of the entire school registration. It should be borne in mind that the families represented in the table, except those of Italian origin, are almost all Jewish families. The table therefore indicates religion as well as nationality.

TABLE I

NATIONALITIES OF PARENTS

COUNTRY OF BIRTH	FATHERS PER CENT	MOTHERS PER CENT	TOTAL OF PARENTS	
			NUMBER	PER CENT
Russia	39.1	36.9	760	38.0
Austria	22.2	24.2	464	23.2
Italy	11.4	11.2	226	11.3
Poland	6.4	6.3	127	6.4
Hungary	4.8	5.0	98	4.9
Europe	4.3	4.5	88	4.4
United States	3.9	4.9	88	4.4
Roumania	2.6	2.7	53	2.6
Germany	1.1	.7	18	.9
Czecho-Slovakia	.5	.6	11	.6
England	.4	.3	7	.3
Greece	.2	.1	3	.2
Ireland	.1	.2	3	.1
Scotland	.1	.1	2	.1
Lithuania	.1	.2	3	.2
France	.1	.0	1	.0
Spain	.1	.0	1	.1
Australia	.1	.1	2	.1
Not Given	2.5	2.0	45	2.2
Total	100.0	100.0	2000	100.0

From the foregoing table we note the great predominance of the foreign-born among the parents of our school children. Of the fathers, less than 4 per cent; and of the mothers, less than 5 per cent were born in the United States. In about equal proportions, the fathers and mothers came from Russia, Austria, Poland, Hungary, and "Europe," which, in the local childish vernacular, usually indicated one of the foregoing countries. In all, 77 per cent of the fathers and 77 per cent of the mothers came from this Eastern European group.

The Italian parents formed about 11 per cent of the entire number, and, taken together with the few scattering nationalities from Western Europe, represent the largest non-Jewish element of the neighborhood. All together this group, it seems safe to say, did not rise to 15 per cent of the families represented in our school.

Let us turn now to the analysis of the birthplaces of the children of these same parents. The following table shows these facts:

TABLE II

NATIONALITIES OF CHILDREN

COUNTRY OF BIRTH	PER CENT
United States	79.7
Russia	9.6
Austria	3.4
Italy	2.2
Poland	1.4
Europe	.8
England	.8
Hungary	.6
Roumania	.4
France	.2
Scotland	.1
Brazil	.1
Africa	.1
Not Given	.6
Total	100.0

About 80 per cent of the children were born in America; about 15 per cent were born in Russia, Austria, Poland, Hungary, and "Europe"; and the remaining 5 per cent were born in Italy and other foreign countries. It appears from a comparison of Tables I and II that, while nearly all of the parents were foreign-born, about four-fifths of the children were native-born. This means that in most cases they were born in the vicinity of the school on the East Side where the experiment was made. These figures give statistical expression to the fact that the school children were largely bi-lingual, and that the conversations of home-life and school-life were to a considerable extent carried on in separate languages.

It must not be supposed, however, that six-year-old children came into the school devoid of the use of English. Even if other teachers had been lacking, the street had not failed to educate them in this regard, as it had also provided them with a wide variety of experiences in other directions. The school does not begin with strictly family-made material alone, but with a modified product of home and neighborhood influences and with a complex individual who needs and rewards a serious attempt to study him.

HEALTH CONDITIONS

Another significant fact about our foreign-born district is that the local population belongs to a stock distinguished by great longevity. This is the peculiar contribution of the Russian Jews to American civilization; they help to increase the national vigor and vitality. From the statistics of the Metropolitan Life Insurance Company we learn that the Russian-born Jews have a lower death rate and greater longevity than native-born Americans of native-born parentage. "Their addition to the population of New York State," writes Dr. Dublin, "has therefore an effect very different from that of other foreign-born peoples. They increase the longevity of the total population rather than decrease it."[1] According to this statistician, the average fourth grade boy in Public School 64 has a longer life before him than the boy descended from native American stock. "At age 10, the expectation of Russian-born males is 53.44 years, as compared with 52.96 years for native males of native parentage." It is hardly necessary to comment on this fact beyond the following statement made by Dr. Dublin: "The full significance of this fact appears when we consider the very unfavorable conditions of life of this people in their new environment. They are, for the most part, relatively newcomers, and many of them are still suffering from the difficulties arising out of poor housing and of bad economic status incidental to a period of adjustment in a new country. This fact again bears out what is generally known — that the Jews as a people have extraordinary vigor."[1]

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[1] Dublin, Louis I., Statistician Metropolitan Life Insurance Company — "The Mortality of Foreign Race Stocks," *The Scientific Monthly*, January, 1922. Page 96.

The second largest racial group represented in the school was the Italian. Consulting the same study of vital statistics we learn that the life span of the Italian male in New York State is next to that of the native-born male of American parentage. "It is important to note," comments the study, "that in spite of the marked change in the environmental conditions in New York State as compared with their native country, which for the large majority of the Italian immigrants is the warm South, the Italian-born live longer and suffer less from most serious diseases in their new abode than in their home country."[2]

Notwithstanding the reassuring tenor of such statistics, we did not feel that the health conditions of the neighborhood were to be regarded with complacency. This actual longevity represented a triumph of stamina over environment. So far as the Jews were concerned, the hygienic rules of their religion, the early retirement of the men from active earning, the lighter occupations in which they chiefly engage — all these facts doubtless have a tendency to prolong the average span of life. In spite of their longevity, the Jewish families are the greatest frequenters of medical clinics of any race in the city. A social worker who came into our school from another part of the city was overwhelmed at the frequency with which these families consulted doctors. She would go to see the mother of a child to counsel a visit to a physician and would be met with the information that three doctors and three clinics had been visited and the mother would cheerfully seek out a fourth if so directed. Whatever may be indicated by this practice — no doubt a part of this running to hospitals and doctors is hysterical — the need of genuine health education is clearly evidenced. The children should receive it early in life in order that its results may be continuously and progressively realized throughout not merely a long but also a healthy life. Our experiments in this direction, although limited, had suggestive aspects which will be described in a later chapter.

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[1] Dublin, L. I., "The Mortality of Foreign Race Stocks." Page 102.

[2] *Ibid.* Page 100.

OCCUPATIONS

An important aspect of the environment of these children is represented by the occupations followed by their fathers. The following table indicates the economic and social conditions of the neighborhood environment.

The following classification reflects in general the features of the great industrial city in which the thousand families had found their home. About 33 per cent of the fathers were employed in the various branches of the clothing industry; about 13 per cent were employed in other branches of light manufacture, such as the making of leather goods, paper goods, foods, etc.; 8 per cent were in the building trades, many as painters; 6 per cent were in household and personal service; 8 per cent were merchants whose business in this district merges into that of the peddler, so that all together the group of small merchants rose to 10 per cent of the entire number; 2 per cent were in professional occupations; 10 per cent did not give the information, and 5 per cent were out of work.

TABLE III

OCCUPATIONS OF FATHERS

OCCUPATION	PER CENT
Industries	
Metal Trades	2.6
Building Trades	8.4
Clothing Industry	33.1
Printing	.4
Miscellaneous Mechanical Trades	.5
Miscellaneous Industries	12.9
Total	57.9
Transportation	
Conductors, Motormen	.4
Chauffeurs, Expressmen	1.5
Longshoremen	.4
Total	2.3
Trade	
Salesmen	3.1
Insurance Agents	.5
Total	3.6
Public Service	
Post Office Clerk	.1
Professional Service	
Doctors, Dentists	.6
Lawyers	.2
Teachers, Clergymen	.2
Music Teachers, Musicians	1.0
Total	2.0
Household and Personal Service	
Barbers	2.4
Restaurant Workers	.6
Laundry Workers	.4
Window Cleaners, Bootblacks, etc.	3.1
Total	6.5
Varied	
Clerical Occupations	.7
Out of Work	5.2
Retired	.1
Manufacturers	1.0
Merchants	8.7
Peddlers	1.3
Farmer	.1
Miner	.1
Not Given	10.4
Total	100.0

The range of occupation and income seems considerable when we remember that this is a homogeneous group of tenement dwellers. Poverty occurs in the vicinity in regrettable proportions, but we had comparatively few children who came from homes of chronic poverty. Unemployment is more familiar but is largely a concomitant of the special industries represented. On the whole, the Jewish fathers lived up to their general reputation of being "good providers" and faithful family men.

The following table shows the occupations of the mothers of 1000 boys:

TABLE IV

OCCUPATIONS OF MOTHERS

OCCUPATION	PER CENT
Housekeepers	82.1
Clothing Industry	5.6
Miscellaneous Industries	.3
Saleswomen	.5
Household and Personal Service	2.9
Clerical Workers	.2
Storekeepers	3.0
Out of Work	.5
Not Given	4.9
Total	100.0

It appears from the foregoing table that 82 per cent of the mothers were housekeepers in their own homes; to these home-workers we might add the 3 per cent who were listed as storekeepers but worked under a semi-domestic régime. The local store is likely to be a family occupation in which the children also take their turn. Of the mothers who did go out to earn, the largest group was employed in the same industry which engaged the largest group of men — the clothing trades. Thus the homes of our district were to a very great extent dependent on the needle trades for their maintenance and security. The industry is subject to season fluctuations, but is, on the other hand, better organized than most American trades. The economic background of the children in Public School 64 was not an especially unstable one.

FAMILY CONDITIONS

The families of these children were larger than the American average. The following table shows the size of family for 1000 children who were the subject of the preceding tables:

TABLE V

SIZE OF FAMILY

NUMBER OF CHILDREN	PERCENTAGE
One	4.6
Two	10.2
Three	19.2
Four	21.1
Five	17.4
Six	13.5
Seven	9.4
Eight	3.2
Nine	1.0
Ten	.4
Total	100.0

The average family of the district was larger than that of the census standard. According to the foregoing table, the average for the neighborhood was 4.39 children per family as compared with the census average of 2.8 children per American-born mother. Of the total 1000 families considered, 66 per cent had four children or more; that is, they exceeded the number per family which prevails in strictly American communities. This reflects the Eastern European origin of our school parents and represents what might be called an alien birth rate, since so marked a difference exists between Eastern Europe and the United States in this respect.

Assuming four children to a family, we realize that our school, with a register of three thousand children, was in a position to influence the future lives of many thousand individuals. The school represented to the children the new society into which their parents had come more or less as strangers, but in which they were to grow up at home. All of them would form their permanent attitude toward society on the basis of their direct contact with a school authority, which their parents had not known.

The boy who fights with the school is not the casual and transient problem that teachers and parents like to believe he is; the habit of antagonism is likely to have a past and also a future. It has an influence on the lives of his brothers and sisters also, for the experiences of one child in his relation to the school are likely to carry over to the others of the family. The emotional solidarity of the family in relation to the outside world is always something to be reckoned with. So far as our three thousand boys lived at peace with our school, we could be sure that six or eight thousand children were feeling the results of whatever good *morale* we were able to maintain among our own immediate group. The prevention of delinquency can be achieved only by the expenditure of real personal consideration for the individual child. A cheaper way does not exist. It is not a matter of indifference whether a boy wages an eight years' war with his school or not, or whether the family takes his side or not; it is a large part of the real business of education.

SOCIAL ENVIRONMENT

The district is marked by the provincialism which is typical of the tenement areas of New York. This partly reflects a

Jewish social habit, but is more largely due to economic conditions. Carfares are not a casual feature in the family economy, nor do they tend to become so in a district where schools, shops, and even jobs are within walking distance. The children seldom use the street cars until working years are reached. Pupils of all ages were subject to "car sickness" and it was common for a child to forego a school treat which involved riding on the cars. When one considers that these were metropolitan school children in the year 1920, one appreciates the significance of such seeming trifles. Should teacher and public school concern themselves about this kind of thing? A bright child is expected to master decimals and the geography of Asia by putting forth the necessary effort. There is no reason why he should not be encouraged to master his environment by the same process. Our school did not prize provincialism as an educational influence; on the contrary, we encouraged the children — the bright ones especially — to go beyond their neighborhood and become acquainted with the city in which they lived.

Life is so thick and colorful in this little compact East Side world that the boy has little incentive to look beyond it for excitement and adventure. Up to the age of fifteen, he can easily keep going on the happenings of the streets near by. The streets are never emptied; an endless processional of human life passes and yet ever stays. The people demand the outdoor markets of Europe, and the narrow streets of the neighborhood are obliged to furnish them. Push-carts rival the department stores in the variety of wares displayed, and even the shopkeepers are forced to set up push-carts in front of their own premises to compete with the more popular outdoor merchants. As the Jewish holidays come around, the push-carts pile on their mountains of pots and kettles, new dishes and new clothes, matzoths and candles, and the scene becomes denser and gayer. The children have a share in the busy spectacle and are content to drink it in from year to year, over and over again. A large New York department store only six blocks to the west is almost unknown to them. Children who were conducted in a party to see this typical American institution surveyed it with wide, strange eyes as if it were a true Leviathan.

After the public school day is over, further lessons and instruction for the children are common. There is scarcely a family in which at least one member does not take music lessons. The window-cards of struggling music teachers are one of the familiar sights of the streets, and numerous little shops hung with violins testify to the local opinion that music is a necessity of life though surface-car travel is not. In the school were hundreds of children not over ten years of age who played the violin. This widespread appreciation of music indicates a type of cultural achievement not common in the older American communities, a definite social value to be conserved.

Religious instruction is a necessary part of the Jewish boy's education. Hebrew schools are regularly conducted, after public school hours are over, in buildings dedicated to the purpose or more frequently in basement classrooms, where light and ventilation are at their poorest. The teachers, who are called by courtesy *rabbis*, receive a weekly tuition fee which varies according to the size of the class, but which is never large enough to pay rent for large, well-ventilated, and well-lighted quarters. However, since the instruction is rather formalistic and depends mainly upon rote memory, the danger of eye-strain is reduced to a minimum. A false notion of learning is the most undesirable product of this method.

The children are in attendance at these schools four or five days a week during the winter months and for a period covering three to six years. Here they learn to repeat the prayers which belong to the family services and those of the synagogue. At thirteen, they receive an examination, the Bar Mitzva, as the ceremony is called, and are henceforth qualified to take full part in the family ritual and that of the synagogue.

While the religious school exists primarily to impart a religious discipline, it is incidentally a school of languages. Hebrew is acquired only in the most mechanical way; not even the brightest children are expected to make any free use of it. On the other hand, dull boys are sometimes known to forget the prayers after they have once learned them and must be sent to "Schul" once more to con them over again. But the modern Jewish language, more commonly called Yiddish, is also taught to the extent that the children learn to read and write it. After a fashion, some degree of literacy in Yiddish is necessary in this neighborhood where it exists as current speech and as the language of the most popular newspapers and theaters of the district. The children are nearly all bilingual, the majority of them speaking Yiddish at home.

The pedagogical methods employed in the Hebrew schools are naturally of the most antiquated kind; the so-called rabbis are the oldest men of their profession, and usually preside over the class, ferule in hand. They are still literal practitioners of an educational system simply based upon the ancient maxim, "Spare the rod and spoil the child." Yet from one of these quaint colleagues of ours we received a most valuable educational hint. The case may as well be told here, as it illustrates a common problem and an uncommon treatment.

There was in our school, in the earliest stages of our experiment, a very troublesome boy whom we shall call by his nickname, "Splits." The boy was of the familiar type known as "Smart Aleck" and the despair of his teachets. He was constantly in the office of the principal, who had no recourse but to pass him on from one teacher to the other; fortunately we had several for every grade. The boy exhausted each teacher in turn and was generally considered an incorrigible nuisance. The arrival of the psychiatrist aroused a faint hope and Splits offered himself cheerfully to the ministrations of this new type of disciplinarian. In the course of the conversation, the psychiatrist elicited an interesting fact. Splits, it appeared, had attended the usual Hebrew class under a "separate rabbi," as the basement teacher is called, and was letter-perfect in religion. The aged rabbi had fallen into the habit of going to sleep in the corner while Splits instructed the class in his stead. This hint resulted in a psychological test in which the boy evinced a level of intelligence much above the average.

This was a complete surprise to all his teachers, who were obliged to give the credit for superior acumen to the aged rabbi. A new type of treatment now suggested itself, however; and Splits was surprised by a sudden promotion. At eleven he was put ahead one term; and then two terms. He was over-sized anyway and looked more at home in the upper grades in which he now found himself. It was quite true that he had been insufficiently loaded for his strength; he responded to the new demands made upon him with a better focusing of his energies. From that time he was less often in the principal's office and more often in the classroom where he belonged. He kept up easily with the class to which he had been promoted and with which he graduated early in his thirteenth year.

We were under no illusion that Splits had been "cured"; his bumptious disposition and his habit of showing off rested on other and deeper lying causes than the one accidentally uncovered. But his comparative adjustment during the last year and a half in school represented an improvement which his former teachers had thought was impossible. Since these are just the years when antisocial tendencies already established are likely to increase progressively, we felt that even a partial reconciliation between Splits and his environment was a constructive and salutary experience for him.

THE SCHOOL

The public school in New York shares the problem of the home in regard to space and elbow-room. It is obliged to place the question of mere house-room above all others. Public School 64 is a five-story building, designed to accommodate as many children as possible. It has fifty classrooms and fourteen shops on four floors above a large undivided basement. It was constructed and opened in 1906, and conforms to the H-type of building which was hopefully regarded at that date as providing a maximum of indoor light and outdoor space. The school is well lighted in contrast to most of the houses of the neighborhood. The two courtyards, however, are entirely inadequate as playgrounds for so large a school; but it was fortunately possible to establish outdoor headquarters hard by in Tompkins Square Park. The building itself, with its large windows and light-stone façade, presents a rather cheerful aspect. In the midst of a foreign-born population, it enjoys the peculiar moral prestige which is obtained so easily by our American public schools, and which they sometimes fail to make due effort to deserve and keep.

In September, 1916, Public School 64 was a pre-vocational school with classes from the kindergarten through the eighth grade. On its register were listed 3000 children, all boys with a few exceptions to be explained hereafter. About 250 children were enrolled in the entering class each year, and about the same number were graduated in June. The school was practically divided into two schools by the assignment of pupils to X-time and Y-time respectively. The hours of the X-school were 8.30 A.M. to 2.30 P.M., and those of the Y-school were 9.30 A.M. to 3.30 P.M. The two programs were arranged by a method of dovetailing, so that more than eighty classes were accommodated by the fifty classrooms and the fourteen shops. The most important supplement to the school was the Tompkins Square playground where the children had physical training and supervised play during two periods a day. Only in the most inclement weather was the basement used for this purpose. It is surprising how few days in the year appeared to be unsuitable. Schoolboys are not squeamish about the weather, and the hours in the Park were rarely omitted. "Shop" was the only rival of the playground.

One notable feature of Public School 64 was the growth of special classes. This was the result of the experimental policy adopted. As the school recognized its problems, special classes of various types were created in the effort to meet them directly. The easy solution of elimination had been abandoned at the outset. During the four years of the experiment, no boy was sent to disciplinary school nor to any other place of last resort. On the contrary, many children were sent to Public School 64 by other schools, both public and private, and were frankly offered and accepted as extreme problems. Furthermore, it was our practice to seek out bright children in the neighborhood and enroll them in our school. Thus it came about that, in the development of the plan, the number of special classes grew to be larger than the number of regular classes in the school.

The special class is the most direct aid possible in the individualization of the child. The regular classes are the carriers of the traditional methods and must wait for their improvement upon the indirect influence of methods learned from the teaching of admittedly exceptional children. In

Public School 64, the number of special classes was an indispensable part of the experiment, since it provided within the school itself a recognized field for a special kind of educational enterprise.

It happens that the three R's may be taught and rote memory cultivated in the smallest possible amount of space. But the moment we begin to relate the curriculum to life in any other direction, the tendency to expand becomes evident. The moment we begin to individualize the child, he seems to take up more room. He even begins to want to move around. With the young population already crowding the school buildings beyond their actual capacity, the distraught authorities are inclined to favor educational methods which act upon the individual as the compress on a cotton bale. The appeal for new facilities, for movable equipment, for cultural advantages, falls on deaf official ears. This is inevitable. So long as we have so much illiteracy in the country, so much part-time in New York and other cities, the improvement of our educational procedure would seem not to be considered a burning issue. The taxpayer does not wish to hitch his wagon to a star; if the school system will eliminate part-time, he is willing to call that progress and to dismiss all further demands as impractical idealism.

These are familiar obstacles, to a greater or less extent, confronting all public schools. At the close of the war, which suspended the normal physical growth of our school plants for a five-year period, these difficulties were everywhere enhanced. At our school, we found that the best way to overcome our physical and traditional limitations was through coöperation with social agencies engaged in educational work. It seems to us that such coöperation is an excellent and practical basis for experiment in the public schools. The development of a superior type of social work in America is a significant and a recognized fact. Increasingly this development has been along scientific lines; increasingly it has become a special effort to make our social and psychological sciences contribute to the practical ends of social service. So far as this is true, the various activities loosely grouped together under the general name of social work have a direct bearing on the educational problem. So far as such activities have succeeded in developing a sound technique, they should be enlisted in the business of public education. Otherwise they will be confined too largely to the handicapped and atypical elements of the child population. Many attempts have been made to establish agencies for child welfare outside of the public schools, but such agencies have had a tendency toward serving a selected and unrepresentative clientele.

Only as educators and social workers coöperate will it be possible to bring the tangible benefits of the latter's method within the reach of all kinds of children. This is a problem which school administrators must face. It cannot be solved by excluding all alliances with the field of social work as irrelevant and unsettling to traditional school routine, because the workers in this field have demonstrated that they have something to give to the children which the public school is not yet in a position to provide. Social workers, on the other hand, should welcome the discipline which comes from working with or through a public school, where theory must measure itself against fact and children are close-up human realities and not imaginary entities.

Our experience with coöperation in Public School 64 has been gratifying in its results. In the course of our four-year experiment, a great variety of aid was forthcoming on every hand for which detailed acknowledgment has been given in the preface. That outside social agencies should be stimulated to coöperate with the public school and the public school to welcome such coöperation is an achievement of no little importance. Our attempt to link up the two factors was not merely an incidental feature but one of the most vital aspects of the experiment.

CHAPTER III

DEVELOPMENT OF CLASSIFICATION

Nowhere throughout the school organization is it so difficult to form an estimate of a child's ability as in the first grade. There is no accumulation of opinion inherited from a previous teacher. Among the children, there is no uniformity of previous experience. They come from various types of homes and frequently, in our school, from the environment of another language. The "spoiling" which many children experience up to school age does not help to prepare them for their first contact with the unknown world of school. Every fall we received from 150 to 200 of these little exiles from home, and it was our task to group them into classes. Less than one-fourth of them had come by way of the kindergarten.

At first the classes were graded upon entrance simply on the basis that the first comers made the first class. When that was full, another class was made. Finally, there were five rooms full of children, all learning the same thing presumably at the same rate from five different teachers.

In contrast to the studied inattention accorded to the entering child, the curriculum awaiting him has been carefully worked out, and on its requirements the eye of the teacher is fixed. She must train the child in certain definite skills — in reading and number-manipulation — and must give him a slice of subject-matter carefully prescribed. The latter consists of facts in nature study and geography and the learning of songs. At the end of five months, it is found that some of the children meet the requirements. They show their proficiency by passing carefully prescribed tests. Some of the group will fail to meet these requirements and the teacher will not recommend them for the next higher class. These unfortunates are "left back" and have to begin all over again the work which will be repeated in exactly the same way the next term.

The question of why some of the pupils have failed is very seldom raised as early as the first grade. It is assumed that a second exposure to the panorama of the curriculum will leave a deeper imprint on the pupil's memory. Seldom is it even admitted that, if the requirements were rigidly and honestly enforced, some of the pupils would remain in the first grade indefinitely.

That they are not so enforced, however, a glance at later developments will show us. If we study a typical seventh or eighth grade from the point of view of the actual abilities of the pupils, we shall see that, in spite of the great amount of retardation, school promotions proceed more by chronological age than by anything else. Early in our experiment, before the psychological classification had been made, an 8A class[1] was carefully gone over by the teacher in charge for the purpose of discovering the actual intellectual standing of the pupils. It was made up of about 30 boys ranging in age from 13 to 16 years. A few of the pupils — 10, or one-third of the class — had by the end of the term qualified for entrance into the 8B grade. The rest, although the teacher's time had been chiefly expended on them, were actually fitted for the following distribution:

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[1] The lower division of a grade is indicated in this study by A, the upper by B.

Qualified for 7A	5
Qualified for 6A	5
Qualified for 5A	4
Qualified for 4A	5
Qualified for 3A	1
Total	20

The teacher discovered early in the term that an appreciable number of her pupils were mentally subnormal. They would have been much better off had they entered the ungraded class when young. In short, there was a total misfit between two-thirds of the class and the curriculum of that particular grade.

In fairness it should be stated that this was the slowest of the three classes which composed the 8A grade at that time. The organization was large enough to support from three to six classes for each grade. These were roughly grouped in the order of proficiency — class 1 being made of the best material, class 2 of the next best, and so on. The assignment of the pupils had been according to the teacher's recommendation. The class that we have examined was the lowest group in that grade; yet it must be remembered that all the pupils had, by a series of promotions, reached the point where they were supposed to be doing 8A work. This experience could probably be matched in practically every graded school throughout the country. It is given here because it is believed to be typical, and because of the light it may shed upon the problem of grading in general.

Would it have been fair to redistribute the twenty boys among the several grades for which they were actually qualified? Obviously, this would have been as unfair as it was impossible. The fault was not so much that of the boys as of the school, which, with a pretense of rigorous exactitude and justice, had really proceeded in a hit-or-miss fashion from the first. This much at least we may deduce from the examination of this particular class: the problem cannot be unraveled at the eighth grade end. Hitherto nearly all the efforts made have centered attention on the difficulties encountered in the seventh and eighth years of school. On the other hand, the first grade child has been consistently neglected. There has been almost a superstitious prejudice against knowing too much about him; it was as if the teachers thought that scientific observation was a kind of "evil eye" that might jeopardize his chances.

We decided to grapple with the problem of grading squarely at the outset of the child's school career. We believed that the school should make the first term, when the child is between six and seven years old, a period for studying him rather than for merely teaching him. If this period is devoted to an intensive study of the facts about each child, it should facilitate adjustments on the part of the school, the child, and the home, so that the following years may proceed with a minimum number of unnecessary obstacles. The plan has distinct advantages. It means that the school is seizing its first rather than its last opportunity for the work of prevention. By using whatever means of scientific foresight there may be at our command, it is possible to avoid waiting several years while the child's school life develops along unprofitable lines and while he himself perhaps achieves a permanent maladjustment. Not the least of the dangers he faces is a scoliosis of character extremely difficult to rectify at the age of fourteen.

Already there exist standards and criteria which may be brought to bear upon the individual child. It is a false idea that a child loses his individuality by being submitted to measurements and norms; on the contrary, he becomes more of a person to his teacher because she knows more about him.

We undertook, by the application of scientific standards, to learn certain strategic facts about every incoming child. He was given primarily a psychological test and received a psychological rating. This was set down tentatively to be revised by a retest at the end of a year. He was given an eye examination and, when glasses were needed, they were with a few exceptions provided and worn. This was achieved with the assistance of a competent social worker. The child was weighed and measured and his percentage of underweight or overweight computed by standard tables. The children who had a normal psychological rating, who had no eye defects, and who were within a small percentage of the proper weight, we considered good risks from the school's point of view. They represented at a rough estimate between 60 per cent and 75 per cent of each class. Care of the other 25 per cent became the task of the visiting teacher and the health worker and their volunteer aids. On the basis of these physical and mental examinations were developed the various types of special classes which will be described later in this study.

As we have said before, the use of the psychological test was not entirely new in the school. It had been previously used in the selection of children for the ungraded and the gifted classes. It naturally followed, from dealing with the groups of children belonging to the lowest and highest grades of ability, that attention should be drawn to those pupils whose ability lies in varying degrees between these two extremes. The efficiency of the mental test in determining the general intelligence of the extreme types of children gave us confidence in its more general application.

WHAT IS GENERAL INTELLIGENCE

Just what general intelligence is, the science of psychology is hardly prepared to say; indeed, it is less prepared to give a dogmatic definition than it was a few years ago. Psychologists have long since relinquished the convenient habit of referring to the different faculties of the mind, such as memory, attention, judgment, as if they were separate entities, and are striving more and more to look upon intelligence as an integrated whole. Psychological tests aim to approach intelligence from as many different angles as possible in an effort to detect its presence or its absence. When a test seeks evidence of memory or ingenuity, it is always with a full appreciation that these qualities cannot be isolated from each other or from the general mental make-up. Each test represents only an avenue of approach. A so-called memory test well passed is very likely to be indicative of high intelligence along other lines. Likewise, size of vocabulary, accuracy in computation, and other special types of reaction are being found more and more to correlate with each other. In combination, they afford a general estimate of the individual.

The idea, for some reason dear to human nature, that a person who is very poor in one thing is likely to be very good in another, is not borne out by psychological investigation. There are children with special abilities and special disabilities but they are rare. This does not mean that all children or all adults are equally gifted in all directions; but it seems very likely that personal interest, emotional bias, or family tradition dictates the line along which specialists and experts develop rather than any isolated inborn trait. The fact that three generations in a certain family have produced eminent surgeons may be just as easily accounted for by interest as by endowment. In short, intelligence tends to be general and its early specialization is naturally rare and educationally undesirable.

The discovery by Alfred Binet, the French psychologist, that general intelligence grows by law and not by accident, is one of those sublimely simple truths which it has taken centuries to arrive at. The theory underlying the whole testing idea is that children's minds develop more or less evenly from one level to another according to age. Each succeeding year in the life of a normal child shows him just that much better able to comprehend and cope with his environment than did the year before.

It was one thing to discover that intelligence was measurable in chronological units, and still another to develop accurate instruments for gauging it. Ten years have passed since Binet's death, and the work of refining and improving his methods is still going on. Binet's method, which is the basis of most of our modern tests, was to discover by experiment the kind of intellectual tasks which show steady improvement in their performance from year to year as children develop, and to establish norms for each successive year. The best tests are those which reflect the age differences most accurately. The policy of the psychological test is to provide a maximum of chances, both to fail and to succeed, and to regard as diagnostic only the composite result of a liberal series of performances. As Terman says, "By a given mental age we mean that degree of general mental ability which is possessed by the average child of corresponding chronological age."

After a mental age is computed, it has meaning only in relation to the chronological age. Having reduced the child's mental age and his chronological age to months, the ratio of the former to the latter is found. This ratio is called the Intelligence Quotient (IQ). It not only places the child in relation to children of his own age, but orientates him in comparison with all other children whose IQ is known. This makes it possible to compare the abilities of school children of all ages, since the IQ has a tendency, as we shall later have occasion to show, to remain fairly stationary as the child progresses in his actual age from year to year. This mental development continues with amazing steadiness and regularity from birth up to a year not as yet exactly defined during adolescence. "Although we are not as yet justified," says Dr. L. S. Hollingworth, "in stating on the basis of experimental evidence exactly the age where mental growth ceases on the average, we are justified in stating that it most probably lies between thirteen and twenty years. Thus development is normally 'arrested' in all human beings between these limits. Such advantage as the average forty-five-year-old has over the average twenty-year-old in the management of affairs consists in additional knowledge, experience, and helpful specific habits, — not in additional capacity for learning new things, which are equally unfamiliar to both." [1]

If it seems strange that one's mental growth should stop so soon, one needs only to compare it to the physical growth of the individual, which also reaches its stopping point during the period of adolescence. The reports concerning the apparently low mental age of the army seem to have caused much popular concern, which is partly based on a misconception concerning the mental maturity of normal intelligence. Psychological tests are so new that an accurate appreciation of the significance of mental age has not yet become general. The middle-aged man who hears that the mental age of the majority of the drafted men was beneath fourteen years compares this with his own chronological age, which gives him a startling advantage. In point of fact, this advantage is illusory, as we have seen. The mental progress of adult years is not a continuation of the mental growth experienced up to and during adolescence. The adult may add to his equipment in the way of special training, information, and expertness, but he does not go on increasing in native physical and mental capacity *ad infinitum*.

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[1] Hollingworth, Leta S. *The Psychology of Subnormal Children.* Macmillan, New York, 1920. Page 100.

Much of the opposition to psychological tests is founded upon an emotional reaction against the idea that human limitations can be declared. Once this possibility is admitted, everyone feels that his privacy is invaded. Each one makes a personal application and is alarmed at the thought that his secret inferiorities may now be published to the world. Evidence of this is the stereotyped retort: "I'm sure I couldn't pass the eight-year-old test myself; I should turn out to be an imbecile." Growing out of this personal reaction is the more altruistic but no less violent revolt against the mere suggestion that every human being does not hold infinite possibilities. We like to believe that every child, given a proper environment, may turn out to be a genius.

Yet when we face the problem with scientific candor, we are obliged to admit that only two alternatives exist. Either everybody is born with the same intellectual potentialities or not. Either everybody is equally endowed or differently endowed. If the latter is true, the whole matter of classifying intelligence becomes merely a question of method. Have we, so far, discovered a means of measuring the intellectual capacity of an individual early enough in life to conserve and cultivate his specific possibilities? Or must we go on learning too late and only through experience what might have been an invaluable guide in the choice of an educational program? Those of us who believe in psychological tests feel that, however crude and inadequate our present methods may be, we have at least at our command a means of discovering the grosser differences in intellectual endowment in early childhood.

How large a part of the human personality is determined by the intellectual status of a person is a question which we must of necessity leave open. We do not wish anywhere to convey the idea that we overestimate the part which intellect plays in the development of personality. While undoubtedly intelligence is the greatest single factor in the ability to do school work, we are certainly entitled to doubt whether ability to master the school curriculum as it is today is the most important factor of success in after-life. The usefulness to humanity of a person emotionally well educated, though of limited intelligence, is largely undemonstrated because of our insistence upon the fetish of the three R's. On the stubborn rocks of such a narrow conception of education, how many dispositions have been wrecked we shall never know. How many antisocial characters have received their original bias from continuous conflict with uncongenial school tasks is probably inestimable. Most modern educators have sufficiently departed from the stern New England tradition of education to believe that a child thrives better in an atmosphere of success and hope than in one of threats and punishment.

Once we have determined to the best of our belief that a child is so limited intellectually that he is not going to find joy and success in the pursuit of academic learning, why should we consign him to the uncongenial tasks for which he is unfitted and the companionship of those who make him daily and hourly conscious of his inevitable failure? On the other hand, there is little to be gained in character by the child of superior intelligence who easily grasps each problem as it is explained and must then sit idly by until the others have caught up. Correspondingly, all along the line, character development is least interfered with where the intellectual stimulus is adapted to the child's real ability to respond and where success in competition with his peers is a daily experience. When a task is too hard or too easy, the result is overstrain or under-effort; neither of these is a mentally hygienic or a normal condition of childhood.

CLASSIFICATION OF A FIRST GRADE

We started out to classify the six-year-old children as they entered school on the supposition that we should find a distribution of intelligence conforming more or less closely to the normal curve of distribution. The normal frequency surface is represented by Figure 1. The tables in the following pages show that these expectations were justified except in regard to the lower end of the curve where our figures showed markedly higher percentages than the normal curve. As McCall says, "A random sampling of most facts gives the normal surface. Morality, intelligence, the weights and heights of men, the blueness of eyes and, doubtless, the intensity of halos, fit the normal curve. It is seldom that mental and educational scores make a *perfectly* normal surface, but they usually give a rough approximation to it." [1]

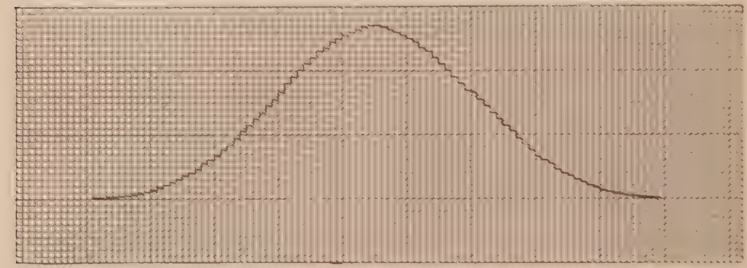

FIG. 1. — Normal frequency curve. (From McCall's *How to Measure in Education*, page 356, Fig. 27.)

The actual distribution of intelligence among the six-year-old children of Public School 64 was made the subject of a special study. Every child in the entering classes of four

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[1] McCall, William A. *How to Measure in Education*. Macmillan, New York, 1922. Page 357.

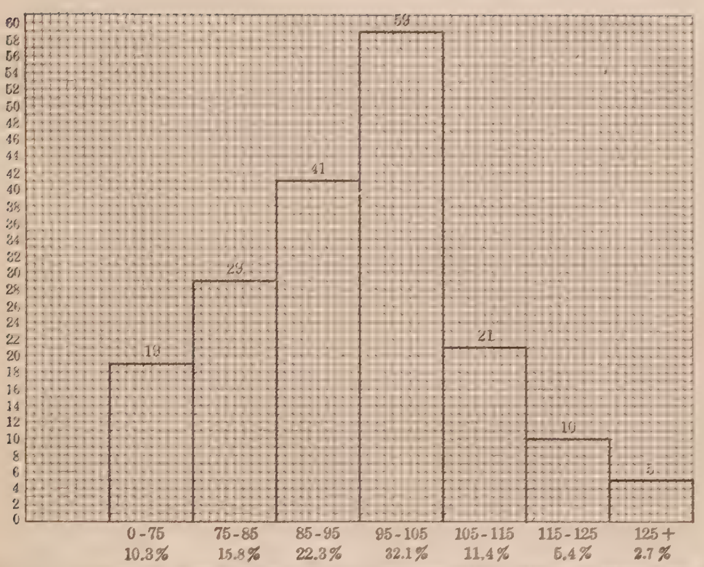

FIG. 2. — Showing distribution of 184 six-year-old children according to IQ's obtained by Stanford-Binet Test. Median = 95.35. (Grade 1A, Public School 64, September, 1917.)

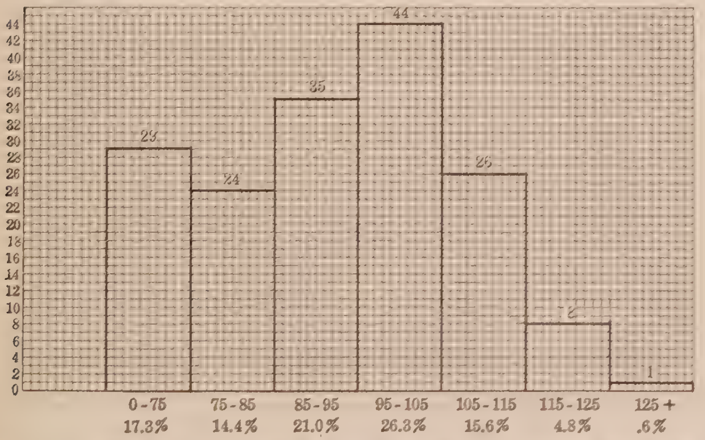

FIG. 3. — Showing distribution of 167 six-year-old children according to IQ's obtained by Stanford-Binet Test. Median = 93.71. (Grade 1A, Public School 64, September, 1918.)

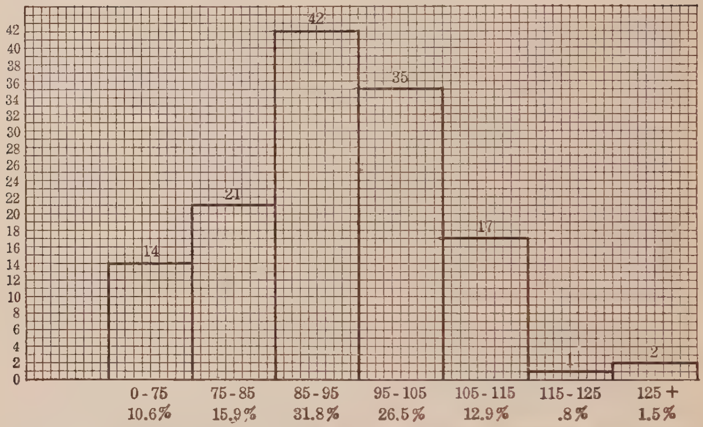

FIG. 4. — Showing distribution of 132 six-year-old children according to IQ's obtained by Stanford-Binet Test. Median = 92.38. (Grade 1A, Public School 64, September, 1919.)

successive Septembers, — 1917, 1918, 1919, 1920, — was given the Stanford-Binet Test. These classes numbered respectively 184, 167, 132, and 123 children, making a total of 606 children. In Figures 2, 3, 4, and 5 and Tables VI, VII, VIII, and IX the make-up of these classes according to IQ is to be seen. Figure 6 and Table X give a composite representa-

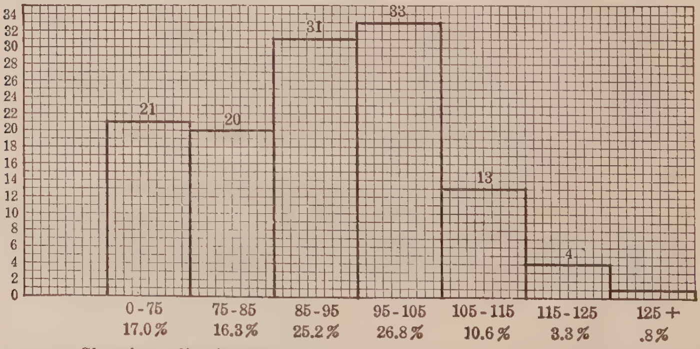

FIG. 5. — Showing distribution of 123 six-year-old children according to IQ's obtained by Stanford-Binet Test. Median = 91.61. (Grade 1A, Public School 64, September, 1920.)

tion of the four classes, showing how each of them followed roughly the same plan of distribution. In Figure 7 and Table XI, the distribution of the 606 six-year-old children is shown, with a median IQ of 93.46.

It will be noted that the classes separately and collectively gave varying approximations of the normal curve; on the whole they showed a tendency to skew toward the lower end.

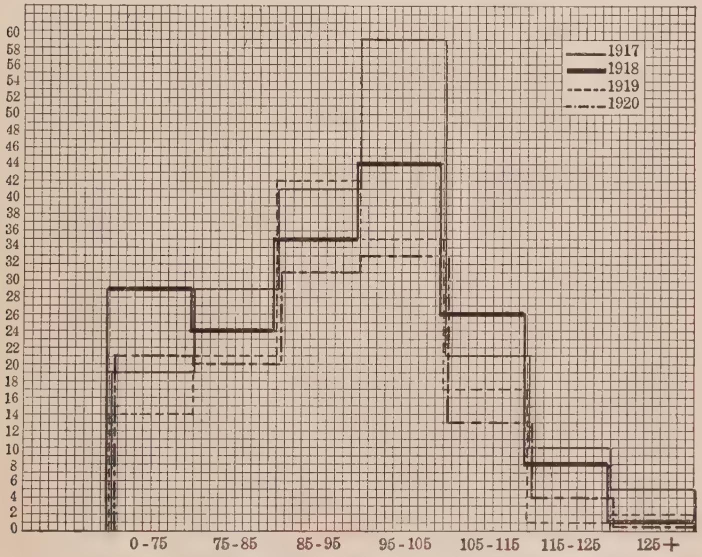

FIG. 6. — Showing distribution of 606 six-year-old children according to IQ's obtained by Stanford-Binet Tests for four successive years.

At first we believed that this was due to the language difficulties encountered in testing six-year-old children coming from bi-lingual homes. However, the curve derived from the tests of the older children in the upper grades, as will be seen hereafter, showed the same general tendency. Also, when our six-year-old children were re-tested, they did not indicate a more marked tendency to raise their IQ's than did the children of other ages. We must therefore infer that the deviation from the normal curve is due to some process of selection in the neighborhood, since these six-year-old children represent all the children in the district, rather than to the inadequacy of the test itself when applied to children at this early age.

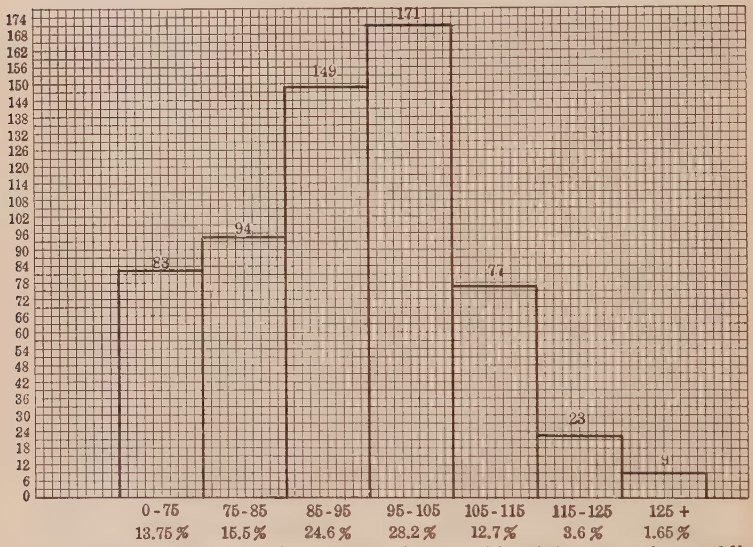

FIG. 7. — Showing distribution of 606 six-year-old children entering Public School 64 in Septembers of 1917, 1918, 1919, 1920. Median = 93.46.

CLASSIFICATION BY GROUP TESTS OF UPPER GRADES

In the upper part of the school, beginning with the fifth grade, the National Intelligence Test was given to groups of forty for the purpose of classification. When these tests were gathered together, it gave us the first picture we had had of the distribution of intelligence in the upper part of the school. The scores from the tests were turned into mental ages from which IQ's were made. The following record shows the mental ages by years and months which correspond to the scores by National Intelligence Test A.

NATIONAL INTELLIGENCE TEST A

MONTHLY AGE NORMS

YEARS-MO.	SCORE	YEARS-MO.	SCORE	YEARS-MO.	SCORE	YEARS-MO.	SCORE
8- 6	38.0	11- 0	82.5	14- 0	117.6	17- 0	157.4
8- 7	39.7	11- 1	83.7	14- 1	118.5	17- 1	158.8
8- 8	41.3	11- 2	85.0	14- 2	119.4	17- 2	160.2
8- 9	43.0	11- 3	86.2	14- 3	120.3	17- 3	161.6
8-10	44.7	11- 4	87.5	14- 4	121.2	17- 4	163.0
8-11	46.3	11- 5	88.7	14- 5	122.1	17- 5	164.5
		11- 6	90.0	14- 6	123.0	17- 6	166.0
		11- 7	90.9	14- 7	123.9	17- 7	167.6
		11- 8	91.8	14- 8	124.8	17- 8	169.2
		11- 9	92.8	14- 9	125.8	17- 9	170.8
		11-10	93.7	14-10	126.7	17-10	172.4
		11-11	94.6	14-11	127.6	17-11	174.1
9- 0	48.0	12- 0	95.5	15- 0	128.5	18- 0	175.8
9- 1	49.7	12- 1	96.4	15- 1	129.4	18- 1	177.5
9- 2	51.4	12- 2	97.3	15- 2	130.3	18- 2	179.2
9- 3	53.0	12- 3	98.2	15- 3	131.2	18- 3	180.9
9- 4	54.7	12- 4	99.1	15- 4	132.1	18- 4	182.6
9- 5	56.3	12- 5	100.0	15- 5	133.0	18- 5	184.3
9- 6	58.0	12- 6	101.0	15- 6	134.0	18- 6	186.0
9- 7	59.5	12- 7	101.9	15- 7	135.2		
9- 8	60.9	12- 8	102.8	15- 8	136.5		
9- 9	62.4	12- 9	103.7	15- 9	137.7		
9-10	63.8	12-10	104.7	15-10	139.0		
9-11	65.2	12-11	105.6	15-11	140.2		
10- 0	66.6	13- 0	106.6	16- 0	141.5		
10- 1	68.0	13- 1	107.5	16- 1	142.7		
10- 2	69.4	13- 2	108.4	16- 2	144.0		
10- 3	70.8	13- 3	109.3	16- 3	145.2		
10- 4	72.2	13- 4	110.2	16- 4	146.5		
10- 5	73.6	13- 5	111.1	16- 5	147.7		
10- 6	75.0	13- 6	112.0	16- 6	149.0		
10- 7	76.2	13- 7	112.9	16- 7	150.4		
10- 8	77.5	13- 8	113.9	16- 8	151.8		
10- 9	78.7	13- 9	114.8	16- 9	153.2		
10-10	80.0	13-10	115.8	16-10	154.6		
10-11	81.2	13-11	116.7	16-11	156.0		

Revised and extended from 1921 Manual of Directions by Dr. Ruth M. Clark, Psychologist, Junior Employment Service.

Table VI

SHOWING DISTRIBUTION OF 184 SIX-YEAR-OLD CHILDREN ACCORDING TO IQ'S OBTAINED BY STANFORD-BINET TEST. MEDIAN — 95.35

Classification	IQ	Number of Cases	Percentage
Very Dull	0–75	19	10.3
Dull	75–85	29	15.8
Below Average	85–95	41	22.3
Average	95–105	59	32.1
Above Average	105–115	21	11.4
Superior	115–125	10	5.4
Very Superior	125+	5	2.7
Total		184	100.0

Table VII

SHOWING DISTRIBUTION OF 167 SIX-YEAR-OLD CHILDREN ACCORDING TO IQ'S OBTAINED BY STANFORD-BINET TEST. MEDIAN — 93.71

Classification	IQ	Number of Cases	Percentage
Very Dull	0–75	29	17.3
Dull	75–85	24	14.4
Below Average . . .	85–95	35	21.0
Average	95–105	44	26.3
Above Average . . .	105–115	26	15.6
Superior	115–125	8	4.8
Very Superior	125+	1	.6
Total		167	100.0

Table VIII

SHOWING DISTRIBUTION OF 132 SIX-YEAR-OLD CHILDREN ACCORDING TO IQ'S OBTAINED BY STANFORD-BINET TEST. MEDIAN — 92.38

Classification	IQ	Number of Cases	Percentage
Very Dull	0–75	14	10.6
Dull	75–85	21	15.9
Below Average	85–95	42	31.8
Average	95–105	35	26.5
Above Average	105–115	17	12.9
Superior	115–125	1	.8
Very Superior	125+	2	1.5
Total		132	100.0

Table IX

SHOWING DISTRIBUTION OF 123 SIX-YEAR-OLD CHILDREN ACCORDING TO IQ'S OBTAINED BY STANFORD-BINET TEST. MEDIAN — 91.61

Classification	IQ	Number of Cases	Percentage
Very Dull	0–75	21	17.0
Dull	75–85	20	16.3
Below Average	85–95	31	25.2
Average	95–105	33	26.8
Above Average	105–115	13	10.6
Superior	115–125	4	3.3
Very Superior	125+	1	.8
Total		123	100.0

Table X

SHOWING DISTRIBUTION OF 606 SIX-YEAR-OLD CHILDREN ACCORDING TO IQ'S OBTAINED BY STANFORD-BINET, FOR FOUR SUCCESSIVE YEARS

Classification	IQ	1917		1918		1919		1920		Total	
		No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Very Dull	0–75	19	10.3	29	17.3	14	10.6	21	17.0	83	13.75
Dull	75–85	29	15.8	24	14.4	21	15.9	20	16.3	94	15.5
Below Av.	85–95	41	22.3	35	21.0	42	31.8	31	25.2	149	24.6
Average	95–105	59	32.1	44	26.3	35	26.5	33	26.8	171	28.2
Above Av.	105–115	21	11.4	26	15.6	17	12.9	13	10.6	77	12.7
Superior	115–125	10	5.4	8	4.8	1	.8	4	3.3	23	3.6
Very Sup.	125+	5	2.7	1	.6	2	1.5	1	.8	9	1.67
Total		184	100.0	167	100.0	132	100.0	123	100.0	606	100.00

Table XI

SHOWING DISTRIBUTION OF 606 SIX-YEAR-OLD CHILDREN ENTERING PUBLIC SCHOOL 64 IN SEPTEMBER OF 1917, 1918, 1919, 1920. MEDIAN — 93.46

Classification	IQ	Number of Cases	Percentage
Very Dull	0–75	83	13.75
Dull	75–85	94	15.5
Below Average	85–95	149	24.6
Average	95–105	171	28.2
Above Average	105–115	77	12.7
Superior	115–125	23	3.6
Very Superior	125+	9	1.65
Total		606	100.00

Figure 8 and Table XII show the distribution by IQ of 1225 children above the fourth grade with a median IQ of 94.29. Figure 9 and Table XIII show the distribution of the same group of pupils classified according to IQ.

This group is not an entirely unselected group, as was the six-year-old group entering the first grade. In the upper classes various kinds of selection had taken place; some of the children of that age had been placed in the ungraded classes, a few in the gifted classes, and a considerable number had left school to go to work. In spite of this fact, there was a great similarity between the curve showing the distribution of intelligence here and that of the six-year-old group. We were obliged to conclude that our work of classification in the upper grades had been to a large extent offset by the influx of children from other schools where the extreme types had not been removed from the regular classes.

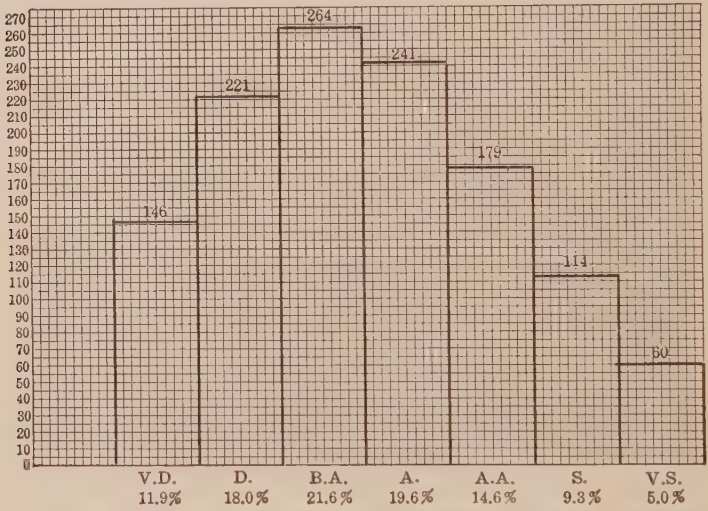

Fig. 8. — Showing frequency distribution according to seven classifications of pupils above Grade 4, Public School 64, based on IQ's obtained from National Intelligence Test. Median = 94.29.

Also, the fact that we had a pre-vocational course to interest children who would ordinarily go to work early helped to reduce the number thus lost to the school. In the years 1920 and 1921, jobs were unusually hard to get and no child was permitted to receive his "working-papers" without a signed slip from his prospective employer. Another counterbalancing factor has been that our school has attracted children of the problem type because of our shops and our reputation for handling such cases. It seems probable, therefore, that while this upper group was not unselected, the forces of selection had more or less counterbalanced each other.

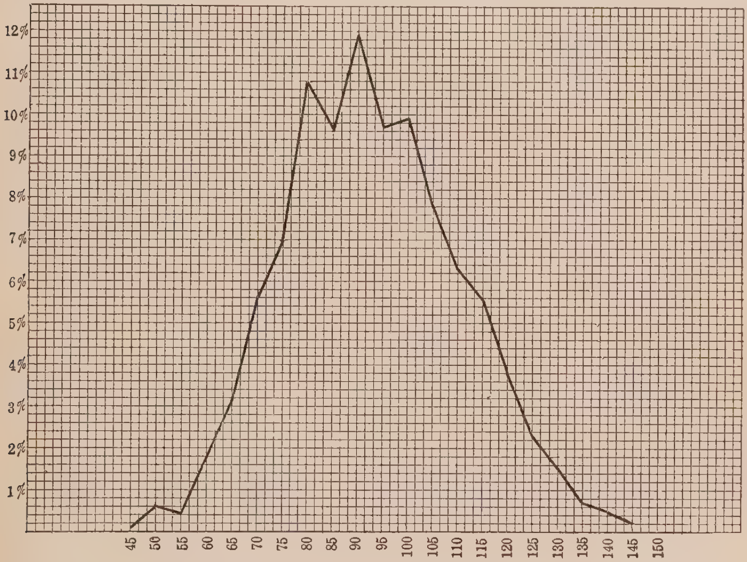

FIG. 9.— Showing distribution by National Intelligence Test IQ's of 1225 pupils above Grade 4, Public School 64.

We probably shall not err far in concluding that these two curves — the six-year-old group and the older group — are fairly representative of our neighborhood population.[1]

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[1] See Appendix A.

TABLE XII

SHOWING DISTRIBUTION ACCORDING TO SEVEN CLASSIFICATIONS OF PUPILS ABOVE GRADE 4, PUBLIC SCHOOL 64, BASED ON IQ'S FROM NATIONAL INTELLIGENCE TEST. MEDIAN — 94.29

CLASSIFICATION	IQ	NUMBER OF CASES	PERCENTAGE
Very Dull	0–75	146	11.9
Dull	75–85	221	18.0
Below Average	85–95	264	21.6
Average	95–105	241	19.6
Above Average	105–115	179	14.6
Superior	115–125	114	9.3
Very Superior	125+	60	5.0
Total		1225	100.0

TABLE XIII

SHOWING DISTRIBUTION OF 1225 PUPILS ABOVE GRADE 4, PUBLIC SCHOOL 64, BY NATIONAL INTELLIGENCE TEST IQ'S

CLASSIFICATION BY IQ	NUMBER OF CASES	PERCENTAGE
45–50	1	.08
50–55	7	.58
55–60	5	.41
60–65	23	1.88
65–70	40	3.27
70–75	70	5.72
75–80	87	7.10
80–85	134	10.94
85–90	118	9.63
90–95	146	11.91
95–100	119	9.71
100–105	122	9.96
105–110	101	8.24
110–115	78	6.37
115–120	68	5.54
120–125	46	3.76
125–130	26	2.12
130–135	16	1.31
135–140	9	.73
140–145	6	.50
145–150	3	.24
Total	1225	100.00

THE YOUNG CHILD AND THE INDIVIDUAL TEST

In the work of grading our school, we tried to give special attention to the best method of classifying young children; that is, children who are below ten years of age. The children studied were in the first, second, and third grades, but mostly in the first and second grades. The following conclusions therefore should apply only to young children.

The group tests included were made at different times and given to children all of whom received the individual Terman Test. Sometimes the Terman Test was given before and sometimes after the group test.[1] These tests were given for the purpose of exploring new tests rather than the purpose of classifying the children, as the children were classified by the individual test. After four years' work the amount of material accumulated suggested the comparison shown in Table XIV.

The correlation of the teacher's estimate with the Terman Test is included because it is suggestive of the older method of classification, although it has little statistical value. It is only fair to note that the correlation would necessarily be low owing to the small number of cases and the homogeneity of the group. Wherever we have worked out correlations between psychological tests and the teacher's judgment, they have usually given .3 and .4, also being subject to the above limitations. Terman quotes the correlation which he found as .48.

The Terman Tests included in Table XIV require a separate explanation. During the six years in which we have given Terman Tests to children in the lower grades, we have discovered pragmatically that the abbreviated scale consisting of the four starred tests was almost as accurate as the complete scale and frequently more practical. None of these abbreviated tests are included in the comparison between long and short Termans. Instead, 100 full tests covering the whole range of IQ's were selected merely on the basis of being full tests. On these 100 test sheets, the IQ's were also calculated as if the starred tests only had been given. Then again, the IQ's were calculated on the basis of two tests to the year. These two tests for each year were selected from among the four starred tests purely on the judgment of the psychologist who had had the most experience in giving tests to the children of the school. The criterion of selection was the diagnostic value of the test and its quickness in giving. The two tests per year selected are given below.

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[1] The authors are indebted to Mary Cover, M.A., and Hazel A. Scofield, M.A., for giving the group tests.

Year 3.
  Test 2. Names key, penny, knife, etc.
  Test 3. Pictures — *a*, *b*, *c*.

Year 4.
  Test 4. Copies square.
  Test 5. Comprehension. What must you do when — *a*, *b*, *c*.

Year 5.
  Test 2. Colors — red, yellow, blue, green.
  Test 3. Æsthetic comparison — *a*, *b*, *c*.

Year 6.
  Test 1. Right hand, left ear, right eye.
  Test 4. What is the thing to do if — *a*, *b*, *c*.

Year 7.
  Test 5. Gives differences — *a*, *b*, *c*.
  Test 6. Copies diamond.

Year 8.
  Test 2. Counts backward 20 to 1.
  Test 3. What is the thing to do if — *a*, *b*, *c*.

Year 9.
  Test 1. Gives date, day, month, day of month, year.
  Test 4. Repeats four digits backward — *a*, *b*, *c*.

Year 10.
Test 1. Vocabulary.
Test 2. Absurdities, *a*, *b*, *c*, *d*, *e*.

Year 11.
Test 1. Vocabulary.
Test 6. Repeats five digits backward — *a*, *b*, *c*.

The following table shows the correlation between the full Terman Test and other methods of classifying children.

TABLE XIV

SHOWING CORRELATION BETWEEN COMPLETE TERMAN TEST AND OTHERS

TEST 1	TEST 2	NUMBER OF CASES	COEFFICIENT OF CORRELATION	PROBABLE ERROR
Terman	Teacher's Estimate . . .	31	.369	.1035
Terman	Pressey (Primer Scale) . .	140	.325	.0501
Terman	Haggerty (Delta 1) . . .	137	.486	.0413
Terman	Myers (Mental Measure) .	138	.547	.0413
Terman	Abbreviated Terman (4 tests)	100	.973	.0035
Terman	Abbreviated Terman (2 tests)	100	.953	.0062

From the foregoing table we see that the teacher's estimate correlates with the Terman Test, .369; the Pressey Primer Scale, .325; the Haggerty Delta 1, .486; and Myers' Mental Measure, .547. All of these correlations are so low that it makes their value to the school very questionable. On the other hand, the abbreviated four-test Terman correlates .973 while the two-test Terman correlates .953. This contrast between the low correlation of the group test and the high correlation of the abbreviated scale points to the distinct superiority of the individual method, no matter how brief the test.

We do not wish to be misunderstood as advocating the use of the short test when the complete test can be given. When the purpose is a diagnosis which seriously affects the life of the individual, such as a court decision or granting a scholarship to a gifted child, no time or pains should be spared. In such cases, one often wishes for more rather than fewer tests in order to make the estimate of the individual as reliable as possible. These cases, however, are the exception rather than the rule, and as a matter of fact, there is no temptation for the psychologist to slur the exceptional child.

These findings are in the main very similar to those of other workers in the same field. The scale has in actual practice been abbreviated in various ways. In the second edition of Terman's record booklet, a short scale was indicated by starring four tests in each year (six in year 12) and this is the most commonly used abridgment. Terman goes so far as to recommend the vocabulary test alone as a brief intelligence scale. Although we have found this to be the best single test above the age of ten, we should prefer always to add a number test in each year. The vocabulary test for the eighth year has been practically useless in our foreign-born community. The children come from bi-lingual homes, and it is not until between the eighth and tenth years, when they have access to books through learning to read, that the process of compensation is completed. From that time on, we have found that the vocabulary is as adequate a test of intelligence in our neighborhood as in any other.

Further corroboration of our experience is found in the report on psychological examining in the United States Army. "The reliability of the abbreviated Stanford-Binet Test had been determined in pre-war work at Stanford University with several groups of subjects. For a group of several hundred male adults, including 'hoboes,' prisoners, and reform school inmates, mental age based on three tests per year (four tests in year 12) correlated 0.96 with the mental ages of the same subjects based on the entire scale. The mental age range of this group corresponded closely to that found for soldiers, except that it had a somewhat larger proportion of low-grade cases. The corresponding correlation (between the two halves of the scale) for several groups of public-school children varied from 0.93 to 0.97. It is evident, therefore, that the reduction of the scale from six to four tests per year involves but slight loss of accuracy."[1]

Yerkes and Yoakum, in their briefer account of the army tests, refer to the successful use of a two-test scale. "The abbreviated form of the Stanford-Binet scale, consisting of only two tests per year, extensively used in the army, correlates .92 with results for the entire scale."[2]

These correlations show what several years' experience has taught us — that, in the classification of young children, group tests as so far devised are not very helpful. If, as so often happens in practical school work, the saving of time is an important element in the choice of a test, it would seem far better that some abbreviated form of an individual test be used. When pressed for time, we have frequently used the four-test abbreviated scale and found it satisfactory as the correlation of .973 would indicate. In Public School 64 we have never used the two-test scale. The correlation shown in the table above is purely statistical and deductive. However, in undertaking a new piece of work where a rapid survey of young children is necessary, we should not hesitate to use this in preference to any group test with which we have as yet had experience.

The common sense explanation of why an individual test is more diagnostic with young children seems obvious. First grade children have not yet become accustomed to listening or obeying in a group. Scarcely have they been weaned from the individualistic régime of home, where every command has been in the form of a personal appeal. In the individual test, no matter how brief, the examiner has an opportunity to look each child in the eye and discover whether the question has penetrated before he records a success or failure in response, while in a group test a very small proportion of the children realize that they are being addressed and are expected to do something in response. The group test with little children becomes therefore merely a test of attention and yields, very largely, negative results. Many a six-year-old child with a zero-score on the group test will prove the next day on an individual test to have an IQ of 100+. Such cases are too numerous to be discounted in the classification of a first grade.

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[1] *Psychological Examining in the United States Army.* Memoir of the National Academy of Sciences. Volume 20, page 399.

[2] Yoakum, C. S., and Yerkes, R. M. *Army Mental Tests.* Henry Holt, New York, 1920. Page 20.

PRACTICAL, NOT NUMEROUS, TESTS ARE NEEDED

In the process of experimenting at different times and in different parts of the school, we have employed many of the group tests that are in current use. The results of these have been very interesting and enlightening in helping us to choose the best tools for classification. We have felt, however, that a multiplicity of tests applied to the same groups of children would add to the confusion of our work without adding materially to its accuracy. We have encouraged experimentation in the school with various new tests as they have come along, always scrutinizing the results with a view to increasing our resources for the purpose of classification. The only tests which we have actually employed for this purpose, however, are the following three: The Stanford-Binet (both complete and four-test scale); the National Intelligence Test (Scale A); the Pintner-Patterson Performance Test, where a non-language test was needed.

There are three criteria which a group test must satisfy in order to qualify for school classification. They are the following:

1. It shall have diagnostic value over a wide range of intelligence.

2. It shall be simple and easy to give and to score.

3. It shall have reliable norms made on a large number of cases.

The National Intelligence Test was chosen in preference to the other group tests for several reasons. It was prepared under the auspices of the National Research Council and was the first test to take advantage of the wide experience gained in the army. It promised therefore to have the most accurate and expeditious technique as yet devised. During the two years of its use in Public School 64 it has fulfilled our expectations in this respect.

During the first month of its release, the National Scale A was used as one of six psychological tests which at that time were being given in the school under the direction of Dr. J. L. Stenquist, of the Bureau of Reference, Research, and Statistics, to 560 children from the fourth to the eighth grades inclusive. This gave an opportunity to compare the National Scale A with a composite of six tests which included, in addition to the National Scale A, the following: The National Scale B; Haggerty Delta 2; Otis Advanced; Myers' Mental Measure; and Kelly-Trabue Language Completion Test (considered here as an intelligence test).[1]

The survey showed on 560 cases a correlation between the National Scale A and the composite of .801, with a probable error of .01. This was not absolutely the highest correlation obtained, since the Haggerty Delta 2 had a correlation with the composite of .808, with a probable error of .01. However, in spite of this slight difference in favor of the Haggerty, the National Scale A was preferred because of its greater ease in giving and scoring. The teachers who had taken part in giving and scoring the six intelligence tests and four subject-matter tests were asked to rank the ten tests in order of their preference in regard to giving and scoring. In both respects, the National Scale A ranked first while Haggerty Delta 2, its only rival, ranked seventh in regard to giving and eighth in regard to scoring. This accorded with our own experience. Another advantage of the National was that we might expect norms on a larger number of cases than on any other test because it was destined for a wider use, owing to its derivation from the army tests and the auspices under which it was produced. We therefore decided upon the National Scale A as a routine group test for all grades from the fourth to the eighth inclusive.

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[1] Stenquist, John L. *Better Grading through the Use of Standard Mental Tests.* Bureau of Reference, Research, and Statistics, Board of Education, New York City.

In the spring of 1921 a study was undertaken by a Columbia student, to find the correlation between the National Intelligence Scale and the Stanford-Binet.[1]

A random sampling of children, consisting of 33 cases representing the intelligence distribution of the entire 5B grade, were given individual Terman Tests and their IQ's correlated with their N. I. T. scores. The correlation found on this small group was .842 with a probable error of .341. The limitations of this study are evident, but it is mentioned here for whatever corroborative value it may have.

The correlation which was found later in the upper part of the school on the cases which had both the National Intelligence Test and the Stanford-Binet, added evidence as to what might be expected in a classification on such a basis. On 129 cases, we found the correlation to be .796 with a probable error of .042. While we do not regard the Stanford-Binet as infallible, it is conceded to be so far the best measure we have with which to compare newer and less established tests.

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[1] Helen M. Seidman, in a thesis presented at Columbia University for degree of M.A

It was always our intention to place a higher value on the accuracy with which a classification or evaluation works out practically than on its statistical relation to an existing standard; yet we must use the scientific means at hand in forming the hypotheses on which we work. In short our ideal is to use a realistic check on academic theory.

Many psychologists seem to think that it is profitable to use as many tests as possible on the same children. We have come to the conclusion, however, that, interesting as this may be from the point of view of studying the tests, it is not the thing to do in the classification of a large school. Here the prime requisite in the choice of a method is the ability to put into accurate and definite form the best possible rating that can be obtained for each child in the shortest possible time. The complications arising out of the complexities of a public school organization and the large numbers of children to be handled at promotion time, absolutely demand a simplification of technique. We are firmly convinced that much of the excellent work that has been done throughout the country in making surveys has been practically lost to the schools themselves because of the neglect of this important consideration. Of course one appreciates that much of this type of work is done for the training of students and the compilation of statistical material. From this point of view, no one can doubt that light has been shed upon educational problems and valuable investigations have been stimulated. However, we believe that a great deal of good work has been wasted, so far as school procedure is concerned, because psychologists have insisted on elaborating their material instead of simplifying it. The academic array of material that is so frequently returned to the school rather intimidates the executive staff and paralyzes activity on the part of the teachers instead of stimulating it.

No survey should be considered complete unless it is followed up for at least one term by the services of a psychologist who remains in and with the school to interpret the technical findings for the practical use of the teachers. In our school, whatever our limitations, we have always had at least this advantage: that the psychological staff has been constantly on the spot to interpret its own material and learn by its own mistakes.

Nothing so convinces the teacher of the general applicability of psychological tests as their ability to throw light on the difficulties of individual children. Many teachers, especially those who have been for several years in the system, look with skepticism on all new methods which claim to offer a panacea for the general problems of the classroom. But fortunately it is the rare teacher who has been so long at her task that she has become hardened to the emotional appeal of the misfit child. It is through the individual problem that psychology must, for a long time, still make its most effective approach to educational service.

CHAPTER IV

THE TEACHER AND THE PSYCHOLOGIST

We started our experiment in psychological grading with three main purposes in view: (1) To reduce or eliminate retardation, (2) to make homogeneous groups for instruction, and (3) to increase our understanding of the individual child. The first is logically the most promising aim of the three, but has been the hardest to accomplish. In the second, we have undoubtedly succeeded to a considerable degree. In the third, we have succeeded rather beyond our original expectations.

Let us turn our attention first of all to the matter of retardation, which has offered the most stubborn resistance to our efforts. As is well known, this is a problem which we share with every school in the country. Many statistical studies have been made showing the extent of retardation on the basis of chronological age. The work of Leonard P. Ayres [1] was the first of a series of such studies setting forth distressful facts. The results of G. D. Strayer's [2] investigation showed that in 318 cities, one-third of the children are retarded one year or more. The most recent report for New York City [3] states that 31 per cent of the children are overage, that is, one or more grades behind the grade to which their age entitles them. In all these studies, the child is allowed almost, if not quite, two years to a grade, so that this chronological measurement of retardation is to be regarded as a lenient rather than a rigorous one.

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[1] Ayres, Leonard P. *Laggards in Our Schools.* Russell Sage Foundation, New York, 1909.

[2] Strayer, G. D. *Age and Grade Census of Schools and Colleges.* United States Bureau of Education, Bulletin 451. 1911.

[3] Nifenecker, Eugene A., Director, Bureau of Reference, Research, and Statistics. *Pupil's Progress through the Grades.* Board of Education, New York City. Publication No. 19. 1922.

The pioneer investigators were inclined to take an optimistic view of the evil: they considered the most important causes resided in objective factors to a large extent removable. Terman's[1] analysis of retardation emphasized the importance of the subjective factor and pointed out, as the chief cause, the variability of mental endowment among school children. He called attention for the first time to the fact that the over-age and therefore apparently retarded child was sometimes in a grade beyond the one for which he was actually qualified. These considerations made the problem now appear in its true complexity, and suggested for the first time a new objective cause: the standard school curriculum. The production of laggards must go on so long as the sacred inviolability of the scholastic curriculum persists.

WHERE TO ATTACK RETARDATION

The studies of retardation which have been published have served to stimulate further studies but little effort at practical improvement. Administrators and teachers read the reports from other cities and conclude that their own schools are no worse than the others — they may even be two per cent better — and decide to let well enough alone. If they do decide to take action, they usually attack the problem from the point of view of the extreme cases. The place where retardation is most curable is when the child is only one year or even one term behind. In this group are found those who are adventitiously retarded and for whom something may be done. The child who graduates from the school one term or one year late might possibly have been saved this delay by a little timely help; but the child who is four terms behind is probably in a situation caused by a factor which also operates to make him unable to compensate for it.

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[1] Terman, Lewis M. *The Intelligence of School Children.* Houghton Mifflin, Boston, 1919.

Our school budgeteers and economists who desire to save money for the city should take a lesson from the modern health movement. Nowadays, we try to increase public health by teaching health habits to those who are not necessarily ill but are candidates for illness because of their unhygienic habits. The anti-tuberculosis society does not concentrate all its money and attention on hospital cases and hopeless invalids, but puts into the forefront of its work the fresh-air camps and nutrition classes for the children with a tubercular tendency. If the school adopted a similar policy against retardation, it would not, as is now the rule, spend all its effort on the over-age child instead of the one who is slightly retarded. The summer school, for instance, accepts the over-age retardate and turns away the child who is promoted on trial. If the problem is to be sincerely attacked, this policy needs an outright reversal.

As the housewife gets used to a backache and drags along with it from day to day; as the child is a little underweight and stays so, and the mother doesn't mind; – so the school remains indifferent to a great amount of remediable retardation. This can easily be located by a combination of psychological and pedagogical tests. If the child can make good on both of these, it shows that he can really do the work. If he isn't doing it in his daily program, there is some objective reason which needs to be searched out. Also, as Terman points out, there is much remediable retardation among bright children who are placed too low. If sufficient attention were given to the proper placement of these children and of those who are normally endowed but accidentally retarded, we should not only encourage the children themselves but should save enough terms to pay for the smaller classes and added equipment for the special training of those children whom we now consider as retarded but who are really underendowed.

During one term in our school, one hundred over-age boys were skipped on the basis of the intelligence test. Their cases had been brought to light in the course of the regular group test. All but three of these made their promotion the following term. Since it costs $32 a term to educate a child in the New York public schools, this means that approximately $3000 were saved by the extra promotions thus successfully made. Although we are not recommending psychological tests as a measure of economy, and believe that more rather than less money should be spent on public education, this experience may suggest to other schools that psychological testing need not necessarily be an extravagance. The saving to the boys who were thus encouraged in the matter of ambition, spirit, and character was a consideration of far greater weight, but one which is often forgotten by those who watch the columns of the financial budget.

MEASUREMENT OF RETARDATION BY PEDAGOGICAL TESTS

We shall give here in detail our experience in dealing with retardation in a large school. In the first place a measurement was undertaken, not on the basis of age, but of ability.

An extensive survey was made by J. L. Stenquist of grades within the school which had not yet been classified by psychological tests. This considered retardation on the basis of educational tests given to 2033 children from the third to the eighth grades, inclusive. In Table XV we have a picture of the retardation in the school, estimated on this basis. The measure here used is the relationship of the child's ability to do grade work to the actual grade in which he is placed. The ability to do grade work was determined by three tests: (1) Kelly-Trabue Language Completion Exercise; (2) Woody-McCall Fundamentals of Arithmetic; (3) Thorndike Visual Vocabulary Test.

In Table XV no reference is made to chronological age. Each of the groups is composed of children of different types and ages. They are arranged horizontally by actual grades and vertically by grade achievement. Clearly, the children in the upper right-hand triangle are too advanced for their ability. That is to say, 59 children in the fifth grade are doing third grade work; 31 in the sixth grade are doing third grade work; 2 in the seventh and 1 in the eighth grade are doing third grade work. In the second line, 72 in the sixth grade are doing fourth grade work; 19 in the seventh are doing fourth grade work; and so on. In the lower left-hand triangle we find the children who are able to do work above the grade in which they are placed. These are the children who are actually retarded although they are not usually considered so. That is, 1 child in the third grade was found to be able to do fifth grade work; 12 in the fourth grade were able to do sixth grade work; 18 in the fifth grade were able to do seventh grade work; and so on. In the same way, the figures between the triangles may be interpreted, being susceptible to a similar analysis. The same conditions exist but are more amenable to treatment, because the children have not deviated so far from the normal rate of progress as in the instances cited.

Such a table as the following should always be accompanied by a list of the individuals who compose each group. It can be interpreted only in the light of the following facts for each child concerned: (1) his chronological age, (2) his school record, (3) his intelligence rating by individual test, (4) his health record, and (5) the findings of the visiting teacher. Let us take, for instance, the 59 children who are in the fifth grade and are found to be able to do third grade work. In such a group we should expect to find a certain quota of mental defectives who had not yet been assigned to an ungraded class; a much larger quota of dull normal children for whom the curriculum was already too unpalatable to stimulate their efforts; the remainder would constitute a group for further investigation. The school record, the home situation, and other personal facts need to be searched out in order to bring to light the objective reasons which have influenced the child's school progress. In this group will be found those children for whom the school and the visiting teacher can, by coöperation, do something effective.

TABLE XV

DISTRIBUTION OF GRADES WITHIN EACH DIVISION OF EDUCATIONAL AGE. ALL PUPILS WITHIN EACH DIVISION TESTED ARE OF EQUAL ACADEMIC AGE. UNDERSCORED FIGURES INDICATE WHERE MOST (IF NOT ALL) SHOULD BE

	Grade									
	3d	4th	5th	6th	7th	8th	9th	10th	11th	Total
Division 3 1. 3d grade by tests: No.	*61*	61	59	31	2	1				215
Division 4 2. 4th grade by tests: No.	34	*108*	113	72	19	11				357
Division 5 3. 5th grade by tests: No.	1	30	*121*	126	84	36				397
Division 6 4. 6th grade by tests: No.		12	48	*112*	135	89				396
Division 7 5. 7th grade by tests: No.			18	71	*165*	112				366
Division 8 6. 8th grade by tests: No.			1	23	86	*100*				210
Division 9 7. 9th grade by tests: No.			1	2	17	59	—			79
Division 10 8. 10th grade by tests: No.					1	9		—		10
Division 11 9. 11th grade by tests: No.					1	2			—	3
Total	96	211	361	437	510	418				2033

In the same way, the 12 children in the fourth grade who did sixth grade work on the test must be individually analyzed. Some of these children, of the right age for the class but brighter than the average, might be given an extra promotion. A small number of over-age children will be found who have not kept up with the normal age-grade progress, but probably can, with assistance, catch up with their year; finally, one or two of these children will be of that type well known to every teacher, who can do well on a "spurt" but whose general level of school performance would not make it advisable to place them in a higher grade.

RETARDATION MAKES FOR MALADJUSTMENTS

The progress which children make in school is of two kinds: (1) actual and (2) specious. One of the methods of meeting the retardation problem is a practical disregard of the actualities. The school makes a tacit ruling that children who have failed to accomplish the desired results shall be advanced to the next grade in spite of such failure. Observation has taught us — and truly — that it is useless and uneconomic to retain the failures in their classes more than two terms. Such pupils gain nothing by repeating the grade, although the current assumption is that all of them are capable of profiting by the standard course of study if they persist long enough. The problem of retardation has been met in other ways. Extra time is sometimes spent by the teachers, usually after school hours, in reaching the laggards. Another method is to divide the class into smaller groups and have the teacher devote her attention to one group at a time. The outcome of all this has been that many children of small native ability have reached the middle and upper classes of every school, more and more unfitted for taking up the work of the next higher class. From the point of view of actually enforcing academic standards, this process cannot be described as a success.

The effects of the faulty system of grading and promotion are seen in the pupils themselves. This important aspect of retardation has been too little regarded. Hitherto teachers have been content to teach and have considered this the fulfillment of their duty. The child's reactions to being taught have been ignored; or at best they have been met by vague personal impressions or accidental and blundering recognition. Making a scientific estimate of the damage to individual character, which is incidental to retardation, has not been considered a part of the school's regular duty.

Many of the retarded children have developed the most undesirable social traits as a result of their efforts to get on. Some of them, realizing their own inferiority, have become experts in tricks designed to deceive the teacher. Mechanical memorizing of work which they could not understand has led others to believe that they knew subjects which in reality were absolutely strange to them. They wanted to graduate and were impelled to use unfair ways when fair ways had failed them.

Ideally, a child should proceed through school unself-consciously. He should not focus his attention on his rate of progress, and normally he would not do so. But once the shock of being "left back" has entered into his system, or once the fear of being "left back" has begun to accompany him in his progress through the grades, he is in the position of a dyspeptic who is always thinking of his food. His teachers and his parents are so worried about him and so anxious about his being educated fast enough, that they must forever be examining and promoting or demoting him. The child's attitude more often than not is that of a veritable hypochondriac who is so afraid that he won't pass and won't be promoted that even his available powers of attention are seldom at his command. All this fear and worry is directly stimulated by both home and school influences. We know that we do not overestimate its existence in the child because it exists in the attitude of the teachers and the atmosphere of the school itself.

THE TRADITION OF "LEAVING BACK"

One source of failure, in any attempt to relieve retardation, deserves special comment. As long as public education has been in vogue, it has been considered inevitable that a certain percentage of the pupils should be "left back." This has been regarded as a normal phenomenon, and has never been seriously questioned until the statisticians began about fifteen years ago to point out its expensiveness. Since that time, as we know, little improvement has been made. The influences which have produced retardation are also effective in maintaining it. One of these, and certainly not the weakest, is the traditional attitude of the school.

It seems almost impossible to eradicate permanently this factor in retardation. The teacher seems to feel that if everyone succeeds in absorbing the course of study, it means that the course of study is too easy to respect. To retain its prestige it must have its modicum of victims. Also, there exists among teachers a certain criticism of each other which operates against the promotion of a doubtful child. The teacher who intimates that the pupils she receives are not well prepared, conveys a painful insult to the previous teacher. To this kind of criticism each is extremely sensitive. We have observed repeatedly that the teacher who takes her class with her will promote nearly all of them. "If I had known I was going to keep this class," a teacher was heard to say, "I would not have left Morris back." The remark was received by her colleagues as a natural point of view, no one pointing out the implications for Morris. The insidious fear of criticism, more or less unconsciously, makes each teacher willing rather to stay the hopes of six children, and charge the bill to the city, than to take a chance on any one of the six who might discredit her with the colleague in charge of the grade above.

The teacher needs an objective test to check herself by. Her situation is not so unlike that of the mother of a family, who, however intimately she might know her own offspring, is not equally well acquainted with the children of all the other mothers in the apartment house. The teacher in charge of a class judges its members only in relation to each other, while the psychological test places the child not only in relation to the other children of that age in the building, but to all the children of that age the country over. It is as if the teacher had, for instance, all the ten-year-old children in the country standing in a line and ranged in the order of their intelligence from the dullest to the brightest, and could take each of her own ten-year-olds and match him to the child of corresponding intelligence in the line. She might then stand at a distance and perceive for the first time the relation that her bright little Johnnie bears to all the bright little Johnnies in the United States and how far from the dullest her dull little Willie stands in such an array.

An experienced teacher who has dealt for several years with children of approximately the same age and the same grade derives, in time, a rough subjective norm whereby she is able to judge the individual child as he comes to her. This takes years, and may never happen if the teacher frequently changes from one grade to another. Nowadays a young teacher has at her command a means of obtaining these norms by a less arduous and more accurate method. While it is not advisable that the teacher should at the same time be a trained psychologist, she should know enough about psychological testing to interpret and incorporate in her work the findings of a scientific test. A list of ten children who were not doing good work was made by a teacher in our school. When tests were made, it turned out that three of these had high IQ's and two were candidates for the class for superior children. The teacher renewed her efforts on these three, with a changed point of view, and at the end of the year, two were actually promoted to the Terman class, where they remained with good records. We have seldom had a boy whose ability showed that he should be advanced out of the regular order who did not pick up in conduct as well as in work when given the chance to earn his promotion. Sometimes the teachers feel indignant at such a procedure because they think that the slow-plodding classmates are unfairly treated.

Everyone profits by viewing his personal and individual problems in the light of a larger whole. No one, more than the teacher, needs to clarify her judgment by means of objective measures and to rid herself of confusing influences that arise from the interplay of personality. The very qualities which make a good teacher, namely, a sympathetic response to the individual and a patient consideration of his peculiar traits, often help to make her a poor judge of his relationship to the larger and unknown group. Special pleading is a virtue in the teacher but a vice in the psychologist.

The teacher is not trained and should not be trained to take a clinical view of her pupils. But she should understand enough of the subject to be able to see the relative position of her pupils along an imaginary intelligence curve, and to guide her efforts accordingly. The children toward the middle of the curve should be her measure of the product of grade work; those near the lower end should be leniently handled and should not be incessantly prodded to perform the impossible; those with more than average intelligence should be held up to high standards of performance and habits of industry. The difference between the typical attitude of the psychologist and the teacher is well illustrated by this episode. Together they went out to lunch and each gave an order consisting of half a dozen items. When the orders arrived, the teacher's was right and the psychologist's was wrong. The psychologist observed, "You *taught* your order to the waiter, whereas I told him mine to see if he could remember it. You got your order and I only got the waiter's memory span."

ATTACKING RETARDATION BY PSYCHOLOGICAL CLASSIFICATION

We made our principal attack on retardation through the psychological classification. It seemed fairly obvious to us that, if enough groups were created within a grade, each moving at different rates of speed, every type of child could find his own place. Save in cases of prolonged absence or other genuine objective difficulty, repetition of the grade by individual pupils would not be necessary. We should bear in mind here that children who have been out of school because of sickness or for other reasons, are not true cases of failure to advance. They constitute a small group who need but little help, and, provided that help is forthcoming, can easily reinstate themselves. The true problem is found in a much larger group, who, once an incoming class has been sorted by psychological tests, can be identified early in their school life. At once the possibility of more flexible promotions becomes apparent. The pupil who begins to lag behind his group can be promoted to a class of slower pupils in the next higher grade. In this way, he cannot, as formerly, be entirely out of his proper place in school. Or else his failure to advance requires immediate and properly directed inquiry into his objective difficulties by the visiting teacher, for his native ability is no longer an unknown factor to confuse the whole situation. In our psychological classification of groups, therefore, we considered that we had a new resource at hand in the struggle against retardation.

One of the most important decisions to be made before any school can even experiment with psychological tests is this: with whom is the decision concerning the placement of pupils finally to rest? Shall the teacher's judgment, which at best is a variable quantity depending upon her length of acquaintance with the child and her ability to judge human nature, be allowed to prevail over the findings of the psychologist? Or shall the psychological rating, as discovered on the basis of a single interview or on the impersonal record of a sheet of paper, be allowed to determine arbitrarily the placement of a child? The third possibility, that of leaving the decision to the principal or other administrative authority, carries the disadvantages of both and the advantages of neither.

It is in the whirlpool which seethes around these rocks that most unsuccessful experiments with psychological classification have been shattered, and others will be in the future until some solution is found. Through our many blunders at Public School 64, we feel that we have arrived at a working basis which avoids the worst snares of all the courses open.

In the course of the experiment, we focused on two attempts to reduce retardation. The first attempt, made in the lower grades, met with practically no success. We found that retardation had such profound roots in the mind of the teacher that it was difficult for her to coöperate in a real effort against it. She instinctively felt that one hundred per cent promotions was "agin natur'." When the lowest quota of a grade had been removed to an ungraded class, the teachers still insisted on "leaving back" the same proportion of children as before, although the unpromotable ones had presumably been removed. With the second group of teachers in the upper grades, and doubtless a better-advised attempt, a higher percentage of promotions was obtained. On the whole, however, the reduction of retardation was the least successful part of the experiment.

At the very beginning of the experiment, the psychologist was permitted to make the classification of the first grade on the basis of the tests alone. This was prior to the popularization of psychological tests by the army, and they were practically unheard of by the teachers. It seemed to them as if the time-honored methods of grading and promotion had been exchanged for the occult practices of palmistry, astrology, or phrenology. During the first term, they complained so loudly that their brightest pets had been discriminated against and their most bothersome dullards unjustly rewarded, that the confidence of the administration was shaken. The fact that these outrageous blunders were shown to be about three per cent of the 275 children of the grade made no impression on the strong feeling that prevailed.

The stories of Izzy and Aby and Mannie that were told in the teachers' lunch-room completely finished off the possibility of a scientific grading for the time being at least. On this wave of reaction, the teachers were permitted, at the end of the next term, to recommend for promotion and placement in the usual way, although the testing still went on. They were told that their judgment would be pooled with the psychological rating. As a matter of fact, however, while their recent protests still echoed painfully in the ears of the administrator, nothing of the sort was done. The children were promoted and graded in much the old-fashioned way, and the psychological ratings became little more than an ornament to the teacher's roll-book. This is the point at which the psychologist usually retreats and the principal sends a letter to the public prints stating that psychological tests have been thoroughly tried out in his school and have proved a complete failure.

During the next term nothing seemed to happen. The psychological tests were largely ignored except in connection with problem cases. Much time was spent by the psychologist and visiting teacher in becoming acquainted with exceptional children who belied their IQ's, and in discussing them with the teachers. The emphasis was shifted from the general mass of children to the small percentage of Izzy's, Aby's, and Mannie's who always absorb so large a percentage of the teacher's time and interest.

Meanwhile, psychological tests were making headway in the outside world. Through their use in the army and the colleges, they came to be discussed in the newspapers. The teachers began to take more interest in the scientific aspect of the subject.

Meanwhile, also, the first group which had been scientifically classified was making progress through the grades, and was gradually justifying itself. The teachers of the middle and upper classes began to discuss a better method of grading in their part of the school. They adduced cases of outrageous injustice which resulted from the older methods of grading. They expressed impatience at waiting for the classified group to reach them, and asked that their classes might be similarly graded. It was here that we had the first fair opportunity for the trial of psychological methods.

METHOD OF CLASSIFYING A FIFTH GRADE[1]

The teachers of the 5B grade were called together. There were six of them. They were invited to coöperate in an experiment in grading by group tests in certain specific ways. Each teacher was provided with a booklet containing directions for giving and scoring the National Intelligence Test, in order that they might familiarize themselves with the method to be employed. The tests were given by the psychological staff and the teachers were invited to be present in some class not their own. It was found to be undesirable to have the teacher present in her own classroom because the children, accustomed to look to her for leadership, failed to give their whole attention to the examiner. The teachers were then asked to help score the tests and given school time in which to do it. Again they were assigned to the scoring of classes not their own. Each set of papers was scored by one teacher and checked by another, and every third paper was checked again by a member of the psychological staff. In this way it was felt that a high degree of accuracy was obtained with a minimum of labor.

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[1] To Miss Mary A. Kelly, Head of the Intermediate Department, Public School 64, whose patience and skill as an impartial chairman came to the aid of the experiment, the bulk of the credit should be given for the practical method adopted.

During the process of scoring, the teachers became very much interested in the tests and altogether enlisted in the project. They discovered from the tests of a class in which they had only an impersonal interest, what a wide range of ability was revealed. They came to realize through familiarity with the right and wrong answers to the questions, the marked diagnostic value of the test. Thus, when we were called together for a second meeting, it was not difficult to come to an agreement based on an impersonal and unprejudiced judgment. It was agreed that the classes should be formed in the beginning absolutely on the basis of the test, and at the end of the first six weeks a revision should be made according to the teacher's judgment.

The third meeting, following the specified six weeks' period, was presided over by the head of the department and attended by six teachers, the psychologist, and the visiting teacher.

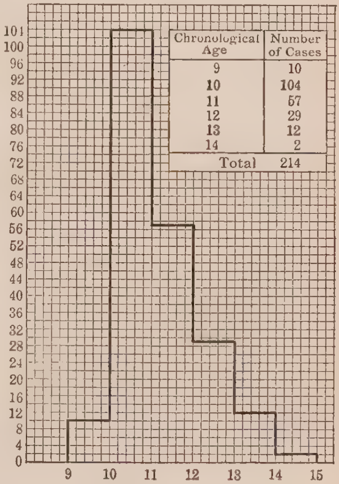
The teachers brought to the meeting the records and histories of all the children whom they regarded as misfits in their group. The teacher in charge of the brightest group was called on first to discuss the cases of those who were not keeping up with the work. She reported in detail on three boys, one of whom she thought lazy though he showed signs of ability, the second of whom she felt was laboring under adverse circumstances at home, and the third of whom she considered a misfit in her group. The first two were assigned by the chairman to the visiting teacher, and the third was offered to the teacher of the next lower group in exchange for one whom she considered able to go ahead with the brighter class. The teacher of the second group spoke next. In the name of science, she offered up two whom she hated to part with, as able to enter the brighter group, and spoke of two whom she considered unable to keep up with the class and be promoted. One of these she consented to try a month longer if the visiting teacher would attend to his bedtime hour and make him wear his glasses. The other she thought would have a fairer chance by entering the slower group at once.

This process was continued on down until the sixth group was reached. Here the teacher complained not of the children, of whom but little was expected since they were the slowest on the grade, but of the curriculum. He said that he would like to have a swimming period at the Boys' Club once a week and a shop period every day, in order to improve his attendance and make the boys willing to incur the boredom of academic lessons for the sake of activities in which they could really take part. The number of children who seemed so disadvantageously placed that a shift should be made was about 2 per cent; another 2 per cent was given to the visiting teacher for another type of adjustment.

These meetings were repeated throughout the term at intervals of about six weeks. Early in the term the head of the department made it clear to the teachers that they were to retain in their group only children who were able to make their promotion with the class, and that there should be no hold-overs at the end of the term except in the lowest group. This plan was adhered to and practically 100 per cent promotions were made, when the proper time came, by six out of the seven teachers. The lowest, or opportunity class, constitutes a separate problem of which more will be said in another place. The small number of children about whom the teacher was doubtful were promoted to the next slower group of the grade ahead. The teachers of the 6A grade to whom these children went expressed satisfaction at the grading of the classes that came to them, and the 5B teachers helped in re-grading in the same way the new children who came to them.

Thus, we accomplished successfully in the middle part of the school what we had failed to accomplish in the lower part. But we still believe that this could be done, and much more advantageously, in the lower grades. It was at this stage of the experiment, however, that the school was changed into a junior high school, with gradually diminishing elementary grades, so that the further working out of the experiment in the lower grades, where it was really most needed, always remained in a less satisfactory stage than in the intermediate grades.

Once the tests have been given, the method of grouping into classes depends on a number of things. First the number of children in the grade must be divided by the number of classes to show the average register. In the given 5B grade we had 214 children to be divided into six classes. The opportunity class, made up of over-age dullards, was permitted to have a smaller register of 30. The remaining 184 children were to be divided into five groups of approximately 37 each. Here we have the problem before us: 214 papers scored and checked with the chronological age attached. From the point of view of chronological age alone, the problem was an interesting one. According to Figure 10, 10 children were nine years old; 104 were ten years old; 57 were eleven years old; 29 were twelve years old; 12 were thirteen years old; and 2 were fourteen years old.

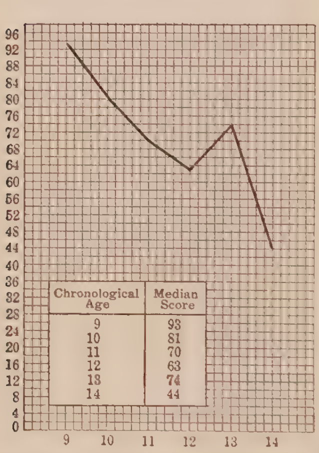


Chronological Age	Number of Cases
9	10
10	104
11	57
12	29
13	12
14	2
Total	214

FIG. 10. — Showing distribution by age at intervals of 1 year of 214 5B grade pupils, Public School 64. March, 1921.

The 214 papers were separated into six piles, according to chronological age, and each age-group was arranged from the lowest to the highest score. It could now be seen at a glance that the youngest children had the highest scores and the oldest children the lowest scores, while the middle groups contained practically the whole range of scores. This fact is clearly shown in Figure 11, which gives the distribution of the median scores by ages. Here it is clearly brought out that the median score falls with each increasing age-group with the exception of the year 13, where a sufficient number of cases were retarded for accidental reasons other than intelligence. The interesting thing about this curve is that it was fairly typical of any grade in the upper or middle part of the school, and was found to repeat itself over and over in our experience.

The normal range of age for grade 5B would be from ten to twelve years; that is, the child of ten would not be placed noticeably high for this age nor the child of twelve noticeably low. The 10 children who were nine years old and the 14 children who were thirteen and fourteen years old fall outside the normal range for the grade. It is among these two groups that one would look first of all for exceptional cases. The 2 fourteen-year-old children received scores among the lowest ten of the whole group. These were obviously candidates for individual tests on the supposition that they were mental defectives so far undiscovered. Of the 12 thirteen-year-old children, 9 received low scores. This indicated that they belonged in the regular over-age dull-normal opportunity class. The other 3 thirteen-year-old children received scores considerably above the rest of the group, which immediately raised the question of why they should be over-age for the grade. They were set aside as probable candidates for "skipping," pending a report from the visiting teacher.



Chronological Age	Median Score
9	93
10	81
11	70
12	63
13	74
14	44

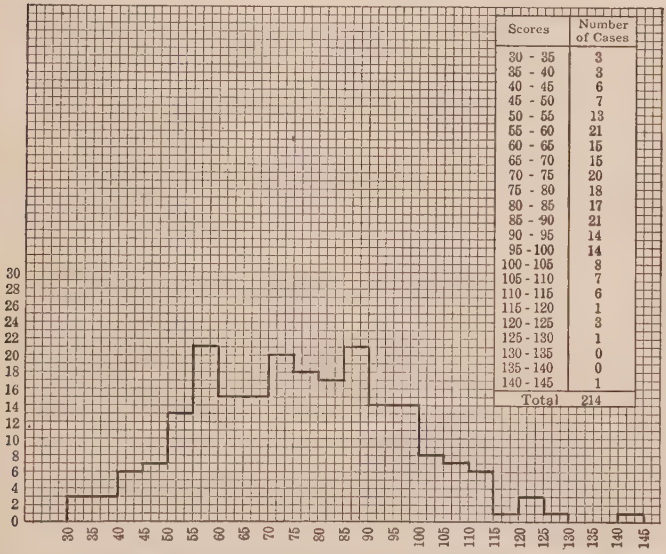
FIG. 11. — Showing distribution of median scores by ages. Grade 5B, Public School 64. Made by National Intelligence Test. March, 1921.

Now, having made observations on the bright under-age, the dull over-age, and the normally endowed over-age, there remained the three normal age-groups for classification. In addition to the 10 nine-year-old children who received high scores, there were 8 in the ten-year-old group, 12 in the eleven-year-old group, and 7 in the twelve-year-old group, making 37 in all, who had scores which would place them in the highest class in the grade, which became the 5B2 class.

In addition to the 9 thirteen-year-old children with low scores, there were 13 twelve-year-old children and 7 eleven-year-old children, making a register of 29 for the opportunity class.

Now that the exceptional children both in regard to age and score had been disposed of, the remaining 148 children were divided into four classes according to their age and rating in the test.

Referring to Figure 12, we see from the wide range of scores made by the 5B grade that even a wider diversity of mental age existed than of chronological age. That this disadvantageous arrangement, from the point of view of teaching, ought not to be repeated in each class, seems fairly obvious. At the time these tests were made we had no reliable norms



Scores	Number of Cases
30 - 35	3
35 - 40	3
40 - 45	6
45 - 50	7
50 - 55	13
55 - 60	21
60 - 65	15
65 - 70	15
70 - 75	20
75 - 80	18
80 - 85	17
85 - 90	21
90 - 95	14
95 - 100	14
100 - 105	8
105 - 110	7
110 - 115	6
115 - 120	1
120 - 125	3
125 - 130	1
130 - 135	0
135 - 140	0
140 - 145	1
Total	214

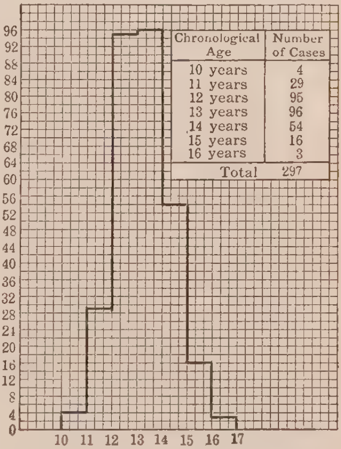
FIG. 12. — Showing distribution of Grade 5B, Public School 64, at intervals of 5 points by National Intelligence Test. March, 1921. 214 cases.

for turning the scores into mental ages and had, therefore, to work out our classification practically by relating the score to the age without obtaining a numerical IQ. In the light of our later norms, we now see that the mental age range was from seven to sixteen years, while the chronological age range was from nine to fourteen years. When one looks on this mental age range from the point of view of teaching fractions and decimals, the situation appears absurd. The classification of these children does not eliminate the children of the lower mental ages, but at least groups them together in such a way that the absurdity of the pedagogical proposition is shown in its true light. The necessity of a changed curriculum for certain types of children sticks out like a sore thumb, while those to whom the present curriculum is most suited are grouped so as to receive it with the least possible resistance.

To go back to the three thirteen-year-old children whose cases were referred to the visiting teacher — one of them was found to be a strong, healthy youngster who had lost a year's schooling at the age of eight and was easily able to make up one grade the following year, with the probability of making up another later. This would remove him finally from the over-age group. The second boy was a truant and a troublesome pupil. When it was put up to him that he should skip a class because of his record in the test, he responded by making B+'s in a class ahead of the one in which he had formerly been bringing home consistent records of failure. This was in addition to a perfect attendance which now replaced the old tendency to truancy. The third boy made an average record in the class to which he was skipped. In the upper grades, and especially among boys coming in from other schools where no testing had been done, we have found many cases similar to these and have also found that they responded equally well to similar treatment.

CLASSIFICATION OF A SEVENTH GRADE

As it was impossible to test all the upper grades of the school during the same term, the fifth and seventh years were chosen as strategic points. An influx of new pupils occurred regularly at these two grades. Several of the neighboring schools for girls carried the boys through the fourth grade and then sent them to us. The influx in the seventh grade was due to the fact that the Junior High School course, beginning at this point, received boys from all the six grades of the Junior High School district. Thus, by concentrating our work in these two places, at the end of a year all the upper part of the school was tested and classified. It was necessary of course to repeat the testing at these two points continuously.[1]



Chronological Age	Number of Cases
10 years	4
11 years	29
12 years	95
13 years	96
14 years	54
15 years	16
16 years	3
Total	297

FIG. 13. — Showing distribution by chronological age of 297 7B grade boys from the pre-vocational and academic departments of Public School 64. October, 1921.

In the classification of the seventh year children, a wholly new element entered into the situation. In this grade, the children were required to choose between the academic and the pre-vocational courses. The division of the grade into two parts simplified rather than complicated the problem. Each department was treated as a separate school and was classified within itself. Both the academic and the pre-vocational departments were large enough to make a satisfactory unit for independent grouping.

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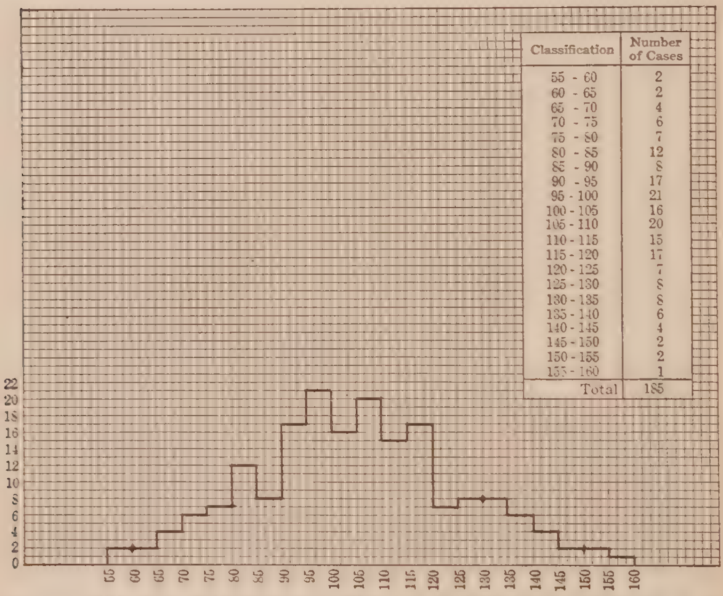
[1] At first the classification was done in the second term of the fifth and seventh years, 5B and 7B, because the new children from other schools were not there in time to be tested for the first term. Later, however, arrangements were made to have the children sent in advance for their tests in order that they might be classified at the beginning of each year.

Conditions in regard to the range of ages and of scores were not dissimilar to those found in the fifth grade. Figure 13 shows the age distribution of 297 boys, of the academic and pre-vocational departments combined, ranging from ten to sixteen years. Figures 14 and 15 show the distribution by scores of the academic and pre-vocational groups separately.

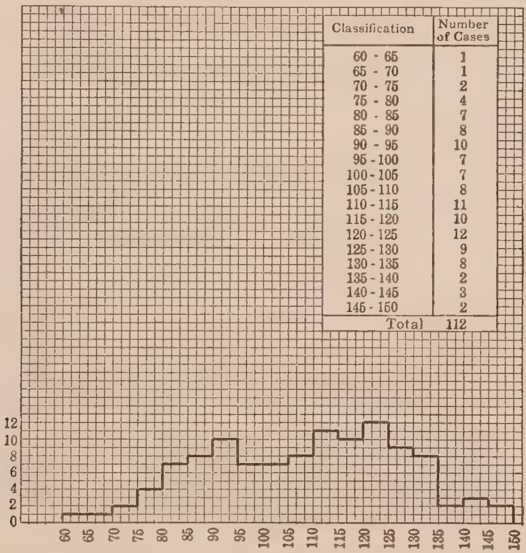


Classification	Number of Cases
55 - 60	2
60 - 65	2
65 - 70	4
70 - 75	6
75 - 80	7
80 - 85	12
85 - 90	8
90 - 95	17
95 - 100	21
100 - 105	16
105 - 110	20
110 - 115	15
115 - 120	17
120 - 125	7
125 - 130	8
130 - 135	8
135 - 140	6
140 - 145	4
145 - 150	2
150 - 155	2
155 - 160	1
Total	185

FIG. 14. — Showing distribution by National Intelligence Test scores of 185 7B grade boys. Academic Course, Public School 64. October, 1921.

In the analysis of age and scores for the seventh grade, the younger children having high scores were given individual tests, and, if they were found to qualify, were placed in the classes for gifted children, called Terman classes. This represented usually not more than one per cent of the group.

The children with the next highest IQ's were placed in a group called the "rapid advancement class." Such classes are a part of the regular Junior High School organization throughout the city. They are not peculiar to Public School 64 as are the Terman classes, and serve an entirely different end. Their sole purpose is, as the name indicates, to save time and to handle children in unusually large groups. The only difference between these classes in our school and in other schools was that the children were chosen on the basis of psychological tests in Public School 64, while in other schools they are selected on the basis of the teacher's recommendation alone.



Classification	Number of Cases
60 - 65	1
65 - 70	1
70 - 75	2
75 - 80	4
80 - 85	7
85 - 90	8
90 - 95	10
95 - 100	7
100 - 105	7
105 - 110	8
110 - 115	11
115 - 120	10
120 - 125	12
125 - 130	9
130 - 135	8
135 - 140	2
140 - 145	3
145 - 150	2
Total	112

FIG. 15. — Showing distribution by National Intelligence Test scores of 112 7B grade boys. Pre-Vocational Course, Public School 64. October, 1921.

At the other end of the scale, the low-score end, individual tests were also given. While a considerable number of the children with low scores were found to be mental defectives, they were not placed in the ungraded classes. We felt that it was not fair to children who had been allowed to progress so far with the expectation of graduation to place them in a department where this was not possible. The result was that in our upper grades in the opportunity classes we carried a certain per cent of this type of material, as do all the other junior high schools.

Just how this situation can best be handled at so late a stage of the child's school career is one of the questions which the junior high school must solve. We only know, in a negative way, that any added element of discouragement is no help to these children in making social adaptations, so important in these adolescent years. A record of their limitations in the hands of the teacher and vocational counselor is, however, a positive and an invaluable help in advising them in regard to their choice of vocational training or wage-earning career.

CHAPTER V

ORGANIZATION OF THE SCHOOL

The first experiment in a better method of grouping made in Public School 64 was initiated early in the school year of 1912–1913. It was introduced in the upper grades,[1] and was based on the differences in physiological development manifested by pre-adolescent and adolescent boys. The phenomena peculiar to this period are familiar to all teachers of upper grade children, and include not merely changes in stature and appearance, but differences in mental and emotional attitude, requiring a different kind of appeal on the part of the teacher. So marked were the good results obtained from classifying the older boys according to physiological maturity, that the grouping was adopted as a regular feature of the school organization. The boys were happier when thus grouped, and the problem of teaching was simplified. Later on, when the psychological test was introduced as an instrument of more careful differentiation, the grouping according to physiological age was still retained among the older boys. The two methods were found to coördinate very well in practice.

Through this experiment, the advantage of a homogeneous grouping among the older children, instead of the old promiscuous assignments, was first experienced in the school. It naturally led to a search for a practical method of differentiation among the younger children. The development of the psychological test, which has been discussed in the foregoing chapters, was a continuation of the effort to make the school organization conform to every type of child at every age.

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[1] The first experiments in physiological grouping and psychological classification were initiated by W. E. Grady, then Principal of Public School 64. See "Age and Progress in a New York City School," by W. E. Grady. *Psychological Clinic*, January 15, 1913. Page 209.

TYPES OF CLASSES

The experiment in psychological classification resulted, in the course of four years, in a much more diversified organization. At the end of the experiment, the following types of classes were provided by the school:

1. *Terman Classes*, for very superior and gifted children. A specially enriched curriculum is provided, the skipping of grades by bright children is avoided. The eight-year course is covered, without skipping, in six years.

2. *Superior Classes*, for children of considerably more than average intelligence. They have the regular curriculum, and usually complete the eight-year course in seven years.

3. *Slightly above the Average Classes*, for children able to do the same work, but a little more intensively than the average, and occasionally to make an extra term.

4. *Average Classes*, for children who deviate but little from the normal.

5. *Slightly below the Average Classes*, for slower children who are not definitely backward. These children can complete the eight years in nine.

6. *Opportunity Classes*, for children definitely backward but not mental defectives. This group is most in need of a special curriculum. A beginning has been made in adapting the curriculum to its needs. The registers are smaller than in the average classes.

7. *Ungraded Classes*, for children much below the average in mentality. Here the curriculum has been completely made over by those in charge of the Ungraded Department.

8. *Neurotic Classes*, for children who are not mental defectives, but behavior problems, who are temperamentally peculiar or in need of a period of study and adjustment.

9. *Classes for the Physically Handicapped*, including classes for children who are underweight and need special physical attention, and cardiac classes, for children of all ages who have heart trouble. Health is made the center of the curriculum. Home visits and mothers' classes are used to get necessary attention to construct health habits.

10. *Foreign Classes*, for children of families newly arrived in this country. These classes were instituted in response to the need which arose when immigration was renewed after the war.

POTENTIAL MENTAL AGES

As a result of the intelligence tests, we have recognized, for the sake of practical management, seven types of pupils. They may be grouped, according to IQ and according to the potential mental age of their maturity, as follows:

GROUP	IQ	POTENTIAL MENTAL AGE[1]
Very Superior	125+	20+
Superior	115–125	19.2
Above Average	105–115	17.6
Average	95–105	16.0
Below Average	85–95	14.4
Dull	75–85	12.8
Very Dull	0–75	11.2

The potential mental ages of the foregoing list are a theoretical representation of the mental ages of the adult population, among whom these children will in time come to take their places. It will be seen, as Dr. Hollingworth has pointed out, that so far as intellectual endowment is concerned, nearly all of us remain permanently somewhere between thirteen and twenty. We do not know whether these differences play a greater or a lesser part in after life than they do in school. The question then arises whether school work should not be so adapted to children as they really are that the same differences should play a lesser part than they now do in marking children out as failures, and in emphasizing this mark by a punitive system of non-promotions.

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[1] Calculated on the basis of 16 years as the mental age of the average adult. Terman has suggested that this age should be lowered. In any case, the classification is not based on absolute but relative ages.

It should be understood that we do not draw sharp distinctions between the seven groups. We have tried to realize, by a practice described in the previous chapter, a high degree of flexibility and interrelation between the groups. The IQ was used chiefly as a starting point and a working basis. Our experience has shown, however, that revisions proved necessary or desirable in less than 5 per cent of the cases.

The method of grouping children of similar abilities together involves the consideration of current criticisms of all attempts at segregation. It is frequently objected that the children become discouraged and depressed because of the inferiority feelings engendered among the duller, and that they make less progress without the stimulus of competition. In reply to the first objection, it may be noted that nothing so habituates a child to the feeling of inferiority as to be constantly faced by a task which he is incapable of performing, and to witness its successful performance by others. In reply to the second, it may be said that the homogeneous group makes competition fair, for the first time, for the dull and for the gifted. For the former especially, it means a chance to realize from day to day the ordinary human feeling of triumph, which belongs to a normal personal experience. For the latter, it means a much-needed spur towards the realization of his actual possibilities.

THE SCHOOL REGISTER

The psychological classification which underlies the school organization was not carried over into the designation of the classes. The official register for September, 1921, reproduced on pages 90–92, shows the regular nomenclature used and published by the school. The opportunity classes include classes for the gifted as well as for the dull. The superior children are provided for partly by the rapid advancement classes, but more largely by the "2" classes (5B2) which occur in both the regular and the pre-vocational courses. The classes for the very dull are known as *Ungraded*, the term which was adopted by the originator of the department many years ago. It may just as appropriately be used to designate classes for bright children as those for the very dull. As City Superintendent Ettinger has said, "The development of a finer classification of our children implies the extension of the ungraded class system far beyond its present limits, and also other groupings that the present ungraded system does not include. Children of a precocious type are entitled to as much consideration as those of a subnormal type."

It is by no means necessary that any invidious terminology should be employed in a school because of the psychological classification. On the contrary, this should be systematically avoided. So far as descriptive names are used at all, such as opportunity and pre-vocational, they should not be used exclusively for one type so that they come to be identified with that type alone. It is usually possible to name the course, as is the rule in colleges, instead of the children who take it.

This helps to prevent self-consciousness on the part of the child and focuses his attention where it should be — upon his work and not upon himself.

Register and Attendance

PUBLIC SCHOOL 64, MANHATTAN

September, 1921

Room	S. C.	L. C.	Class	Teacher	Register
411X	—	—	8B4	Miss Stack	32
409X	45	40	8B1	Mr. Dowling	38
412X	43	40	8B2	Mr. Wisansky	39
507X	47	40	8B3	Mr. Phillips	38
406X	44	40	8A1	Miss Bernis	41
407X	44	40	8A2	Miss Barney	46
215X	15	74	7B1	Miss Redmond	30
410X	43	40	7B2	Mrs. Archer	45
401X	43	35	7B3	Miss Gaston	33
408X	49	41	7B4	Mrs. Emelin	43
213X	20	32	7B5	Miss Prior	34
402X	44	35	R.A.	Miss Ennis	39
403X	48	38	7A1	Miss Danis	41
404X	45	40	7A2	Miss Gansert	44
415X	20	38	7A3	Miss M. Burke	44
311X	48	40	6B1	Mr. Graner	31
310X	51	40	6B2	Miss Harvey	34
310Y	—	—	6B3	Mrs. Lacques	36
311Y	—	—	6B4	Miss Krashes	38
301Y	45	35	6B5	Mr. Stern	35
304Y	51	40	6A1	Mr. Coughlin	41
312Y	48	40	6A2	Miss Schulte	33
304X	—	—	6A3	Mrs. Salop	43
305Y	46	32	6A4	Miss Cypelman	41
309Y	48	40	6A5	Mrs. Bordner	39
309X	—	—	5B1	Mr. Silver	36
414Y	52	38	5B2	Miss Lerner	34
302Y	52	35	5B3	Miss Esslinger	35
302X	—	—	5B4	Mrs. Kreisberg	38
305X	—	—	5B5	Miss Lubin	37
202X	52	35	5A1	Miss Curry	40
202Y	—	—	5A2	Miss D'Alesandre	37
204Y	53	40	3B1	Mrs. Paster	42
204X	—	—	3A1	Miss Duffy	37
210Y	51	40	2B1	Miss Lewis	39
210X	—	—	2A1	Miss Molander	39

REGISTER AND ATTENDANCE — *Continued*

PUBLIC SCHOOL 64, MANHATTAN

SEPTEMBER, 1921

ROOM	S. C.	L. C.	CLASS	TEACHER	REGISTER
206Y	52	40	1B1	Miss Funk	37
206X	—	—	Kg. Ex.	Mrs. Preston	34–11[1]
208X	56	41	Kg. 1	Miss White	24–18
208X	—	—	Kg. 2	Miss Schilo	28–14
413X	20	32	Op. 7B	Mrs. Chambers	25
405X	41	32	Op. 7A	Miss Horrigan	25
303X	46	41	Op. 6B	Mr. Syrop	35
312X	—	—	Op. 6A	Mr. Kanner	32
414X	—	—	Op. 5B	Mr. Krown	29
301X	—	—	Op. 5A	Mr. Zuckerman	36
303Y	—	—	Op. 4B	Miss Aigeltinger	47
306Y	26	40	Op. 4A	Miss Mitchell	42
306X	—	—	Op. 7A–M	Miss Gluck	9–11
307X	52	40	Op. 6A–M	Mr. Rosenzweig	16–8
307Y	—	—	Op. 5A–M	Mrs. Thompson	13–10
214X	30	41	Op. 4A–M	Miss Kalman	13–12
214Y	—	—	Op. 3A–M	Miss Engles	17–6
209Y	20	40	Ung. 1	Miss Kessler	19
209X	—	—	Ung. 2	Mrs. Kassman	18
201X	45	35	Ung. 3	Miss Tattershall	16
207X	20	40	Ung. 4	Miss Ryan	16
308X	15	41	Ung. 5	Mrs. Jones	18
207X	—	—	Ung. 6	Miss G. Specht	19
205X	21	35	Ung. 7	Miss Kenzel	19
205Y	—	—	Ung. 8	Miss Sposato	19
203X	19	35	Ung. 9	Miss Schwarte	19
314Y	25	41	Anem. 1	Mrs. Kjelsen	26
C. A. S.	34	—	Anem. 2	Mrs. Friedman	24
C. A. S.	25	—	Card. 1	Miss Eisworth	12–10
C. A. S.	25	—	Card. 2	Miss Drescher	9–14
C. A. S.	25	—	Card. 3	Miss Katz	8–15
Mineola	—	—	Card. 4	Mrs. Levin	23–13
212X	52	40	C1	Miss Berger	41

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[1] When two numbers are given, the second denotes girls. It will be noted that this applies only to kindergarten classes, cardiac classes, and opportunity (gifted) classes.

REGISTER AND ATTENDANCE — *Concluded*

PUBLIC SCHOOL 64, MANHATTAN

SEPTEMBER, 1921

ROOM	S. C.	L. C.	CLASS	TEACHER	REGISTER
212Y	—	—	C2	Miss Tulchen	47
517	20	36	9A1P.V.	Mr. Frisa	1
506	48	40	8B1P.V.	Mr. Handelsman	36
513	46	32	8B2P.V.	Mr. Lefkowitz	41
512	49	32	8B3P.V.	Mr. Wolff	44
509	48	40	8A1P.V.	Miss Hall	43
514	47	41	8A2P.V.	Miss Evans	42
502	46	35	8A3P.V.	Miss Tuthill	41
508	40	41	7B1P.V.	Mr. Selmanowitz	35
315	20	38	7B2P.V.	Mr. Geissinger	35
510	51	40	7B3P.V.	Miss DeZeller	34
511	49	40	7A1P.V.	Mr. Schoenbrun	44
313	20	32	7A2P.V.	Mr. Pross	38
504	46	40	7A3P.V.	Mrs. Wochian	45
Total					2666–142

RELIABILITY OF CLASSIFICATION

With regard to the psychological differentiation, the question is often raised as to whether the physical condition of the child at the time of the test does not seriously impair the validity of the result. Ruling out an acute illness, which the examiner can be reasonably trusted to detect, what are the most frequent physical defects among school children which might be expected to lower their mental efficiency? All health statistics go to show that carious teeth, hypertrophied tonsils, adenoids, eye defects, and malnutrition are the most usual deterrents to normal physical development.[1] In regard to teeth, probably nothing short of a violent toothache, which is usually advertised in our neighborhood by a rag wound around the head and tied on top, would interfere with a child's answer to a set of simple questions. In regard to the effect of the removal of adenoids and tonsils on the improvement of the IQ, several studies have been made by psychologists, always with negative results.[1]

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[1] Rogers, Margaret Cobb. "Effect of the Removal of Adenoids and Diseased Tonsils upon the Growth of Intelligence," *Archives of Psychology, No. 50*, New York, April, 1922.

This and the following paragraphs are the outcome of experience with psychological testing. It is unquestionably true that physical defects have a very distinct effect upon the school progress of a child, generally speaking. The health aspects of the experiment will be discussed in Chapter XI of this study.

The relation of eye defects and malnutrition was made the subject of a special study during one term in our school.

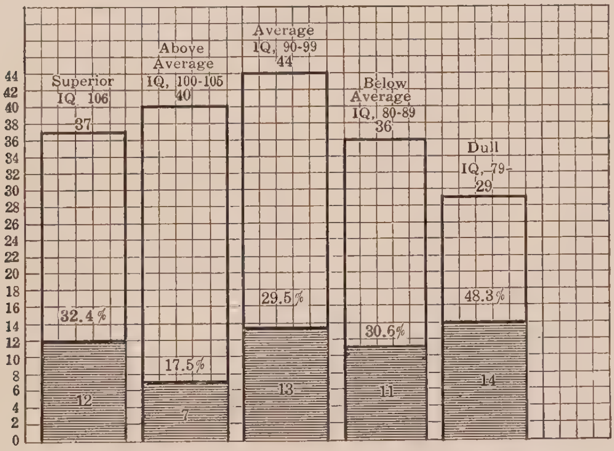

FIG. 16. — Showing number of children with eye defects in each of five 1B grade classes grouped according to IQ. Total = 186. Eye defects = 57 = 30 per cent.

Figure 16 shows the percentage of eye defects in varying groups of intelligence within a 1B grade. It may be seen that the proportion of eye defects is not distributed in any direct relation to intelligence. While the dullest children had the largest percentage of eye defects, the brightest had the next largest. Nothing is definitely proved by such an array of facts, yet they would lead us to infer that defective vision is irregularly distributed among all the grades of intelligence.

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[1] Terman, Lewis M. *The Intelligence of School Children.* Houghton Mifflin, Boston, 1919. Page 151.

A similar condition was found in a study of the relation of malnutrition to intelligence. The best index that we have of malnutrition is the relation of weight to height. The children included in Figure 17 were judged as underweight or not, according to whether they came within ten per cent of the standard weight for their age and height. The percentages of underweight shown by the figure do not follow in any way the distribution of intelligence. The class of children of average intelligence contained the largest percentage of underweight, while the dullest and the brightest had the least. Again the result is negative, and it seems safe to infer that the children are not accounted dull because of the supposed influence of malnutrition upon their responses.

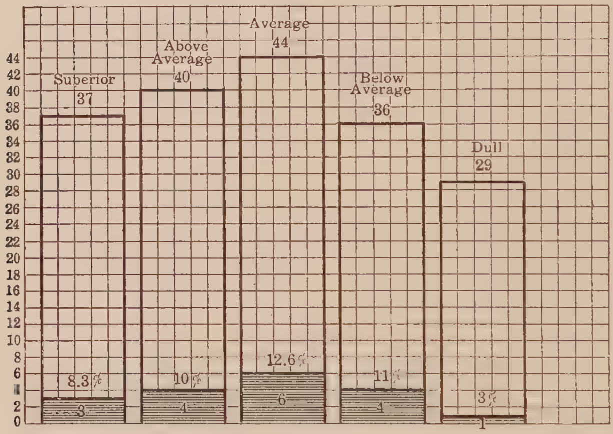

FIG. 17. — Showing number of children underweight in each of five 1B grade classes grouped according to IQ. Total = 186. Underweight = 18 = 9.7 per cent.

As to other sporadic influences which affect the child from day to day, such as headache or insufficient sleep or a cold in the head, it seems unlikely that any of these conditions should seriously affect his ability to respond to a question to which he knows the answer. It is a mistaken idea that it is easier for a child to give a wrong answer than the right one, even though he knows the right one. Even a child with a temperature finds it just as easy to say that he has five fingers on his right hand instead of four if he happens to know it. No amount of buoyant health is going to enable him to give this simple information if he is not mature enough to have arrived at it.

Nothing could be a greater error than to suppose that school children regard the matter of testing as an inquisition or the "third degree." On the contrary, in a school where the children are accustomed to be tested they often "hang around" the door asking when their turn is to come. If now and then a child is shy and offish, he is simply left until a later time when he has become sufficiently socialized to wish to share the experience of the others. In a neighborhood such as ours where families are large and homes are crowded, it is often a unique experience for a youngster to receive the undivided attention of a grown-up for half-an-hour at a time. Nor is it surprising that he responds to this with lively coöperation. The concrete materials of the test, the blocks and pictures, are an aid in gaining rapport with a young and self-conscious child. Besides, it is almost an irresistible temptation to any boy, even the shyest, to ask him a question to which he knows the answer. Even a little experience soon teaches a psychologist to know when ordinary interest is lacking. If, as occasionally happens, a new teacher has used the test in advance as a threat, it is impossible to proceed without a whole course of therapeutic treatment. In our school we had this great advantage, that the psychological test was as much a matter of routine as was the health examination. It is not usual for a child to dread very much what all his comrades have survived.

"Don't the children learn the tests from each other?" is frequently asked. This is a natural inquiry from one not familiar with the character of the tests. The questions are not, like school examinations, measures of information but of maturity. A child who is not mature enough to be orientated as to the exact date, - day, month, and year, — will not suddenly become so by knowing that he may be asked. It is a matter of ordinary observation that a two- or three-year-old baby does not know and cannot learn the same things as his four- or five-year-old brother. That this same difference of capacity exists between ages all the way along the line up to mental maturity is not so commonly understood. It seems incredible that a child at one period of his development should be unable to copy a diamond-shaped figure, and at the next period, only a little later, should be able to do so quite competently without any intervening practice. Such subtle differences are not a matter of common knowledge, but have been arrived at by scientific observation. In fact, this is the very essence of Binet's discovery on which all modern testing is based.

Another reason why this matter of communication is of no consequence is that the children do not remember the tests accurately enough to pass them on. A number of children were questioned at one time to see how much they could tell immediately after the test. The best that anyone could do was, "She gave me blocks to see how heavy they were and asked me about a lot of words and how much change I'd have from the store." This was a nine-year-old boy of good intelligence. The other replies were even more vague; most of the children referred reminiscently to "pictures and blocks." Only among the older and very bright children is there a possibility of real coaching, enough to affect the scores in any way, and here the spirit of competition is sufficient to keep them from telling very much. It was not an unknown experience with us to discover that an older boy had heard of some particular test from a friend. Yet this is as likely to make for failure as success, for it is the peculiar nature of the intelligence test that it is not susceptible to parrot-like learning, but must be thoroughly understood to yield a plus rating.

Another question which has to be taken seriously is that of the sources of error in determining the IQ's. Those who have had no experience with the results of the test often think that a wide difference may arise between the findings of one examiner and another. As a matter of fact, few differences can be traced to this cause. The tests are devised to eliminate the judgment of the examiner as much as possible. Every word which the child speaks is written on the paper, and no examiner is considered competent who fails to record all answers fully and accurately. This makes it possible for a second examiner to check the first, which is the usual practice. The errors in IQ which actually occur, proceed more commonly from mistakes in mathematical computation, and most frequently of all from inaccurate information concerning the date of birth.

On the child's permanent school record appears his official date of birth, on which his IQ must be based. The school may demand his birth certificate for making this record when he first enters school. This is not always done, however, and the statement of the parent is accepted. The statement may be inaccurate, sometimes from ulterior motives, such as wishing to enter a child in school before the legal age, and sometimes from a general haziness as to dates in a neighborhood which lives and dies very largely by the Jewish calendar. Almost no dependence could be placed upon the children's statements concerning their own birthdays. Incredible as it may seem, when the National Intelligence Test was given to about 300 seventh grade boys, practically 75 per cent of them gave the wrong age or date of birth. There were children in our school, some of them of superior intelligence, who went all the way through the grades with a question mark after their IQ's because we were never able to ascertain absolutely their date of birth. It is this kind of practical detail which must receive a due amount of close attention on the part of the psychologist in order not to undermine a piece of otherwise careful work.

STABILITY OF THE IQ

The question is also raised as to whether the classification of a grade on the basis of IQ has sufficient stability to warrant its adoption in a school where every term brings a replacement of the child. We already realize the enormous burden to teachers and pupils of examinations given twice a year. This is where the psychological test has an advantage; it does not need to be repeated every term. The repetition of psychological tests at various intervals has shown that the IQ does not fluctuate sufficiently to demand frequent re-testing.

Table XVI is modeled on a corresponding table in Terman's *The Intelligence of School Children.* It represents the results of a series of re-tests given to 289 children at intervals varying from one month to five years. The range of ages of the children varied from five to fifteen years. The range of IQ's varied from 50 to 169. Although the groupings in regard to interval, age at first test, and IQ are not identical, owing to differences in our material, the plan of the table follows closely enough that of Terman's to facilitate comparison.

In collecting the tests for correlation, we used both the long and the abbreviated scales indifferently; that is, 4 tests and 6 tests to a year. We felt that this was justified by the exceedingly high correlation (.973) between the two.

Table XVI shows the results of 322 comparisons giving a correlation of .98 between first and second tests, with a probable error of .0038.

The tests were given by twelve examiners,[1] and less than one-fourth of the resulting comparisons were based on pairs of tests which had been given both times by the same examiner. Some of the children were tested more than twice, and in such cases the second and third tests were each compared with the first test and then with each other, making in all 322 comparisons for 289 children. These tests were all given during school hours.

Table XVII gives in parallel columns the results of Terman's 435 comparisons and our 322 comparisons. Since the number of cases is not the same, they have both been converted into percentages. It will be seen from this table that 6 per cent of Terman's re-tests resulted in no variation of IQ; 37.2 per cent gave a variation within three points above or below; 59.6 per cent a variation of six points above or below; and 81.8 per cent, within nine points above or below. On the basis of the 322 comparisons in our school, the variations were as follows: 9.6 per cent gave the same IQ; 48.9 per cent varied within three points above or below; 76.5 per cent, within six points above or below; and 90.1 per cent, within nine points above or below.

The limited extent of these variations has great significance for our plan of classification. The child who raises his score ten points up or down on a second test neither disarranges the scheme of classification nor materially alters his place in the scheme. The groupings themselves are made on the basis of ten-point differences and no hair-line divisions are drawn. The separation between any one group and the

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[1] Elisabeth Irwin, Zena C O'Connor, and Hazel A. Scofield, of the Psychological Staff, Public School 64, gave 73 per cent of the tests; Mary Cover, Mary Levin, Ellen Mathews, Helen M. Seidman, Dorothy Van Alstyne, students in the Department of Psychology, Columbia University, gave 17 per cent of the tests; L. Dorothea Albrecht, Martha Barney, Estelle Kenzel, and Julia Molander, teachers in Public School 64 who had had training in psychological testing, gave 10 per cent of the tests.

TABLE XVI

SHOWING IQ CHANGES FOR CHILDREN RE-TESTED AFTER DIFFERENT INTERVALS, FOR CHILDREN OF DIFFERENT AGES, AND FOR CHILDREN OF VARIOUS DEGREES OF BRIGHTNESS. MODELED FOR PURPOSES OF COMPARISON ON TABLE 25, PAGE 141, OF TERMAN'S *Intelligence of School Children*

CHANGE IN IQ	INTERVAL					AGE AT FIRST TEST					IQ GROUP			TOTAL CASES
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
	0–11 Mo.	1 Yr. 1 Yr. 11 Mo.	2 Yr.– 2 Yr. 11 Mo.	3 Yr.– 3 Yr. 11 Mo.	4 Yr.– 4 Yr. 11 Mo.	5 Yr.– 6 Yr. 11 Mo.	7 Yr.– 8 Yr. 11 Mo.	9 Yr.– 10 Yr. 11 Mo.	11 Yr.– 12 Yr. 11 Mo.	13 Yr.– 14 Yr. 11 Mo.	IQ 120+	IQ 75–120	IQ 0–75	SUM OF COLUMNS 11, 12, 13
Above + 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+ 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+ 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+ 17	0	1	0	0	0	0	0	1	0	0	1	0	0	1
+ 16	0	2	0	0	0	1	1	0	0	0	2	0	0	2
+ 15	0	1	0	0	0	0	1	0	0	0	1	0	0	1
+ 14	0	1	1	0	0	1	0	1	0	0	0	1	1	2
+ 13	0	2	0	0	0	0	1	1	0	0	2	0	0	2
+ 12	0	0	2	0	1	1	1	1	0	0	1	0	2	3
+ 11	0	1	2	0	0	2	0	0	0	0	0	1	2	3
+ 10	0	3	1	0	0	2	1	0	0	1	1	1	2	4
+ 9	0	2	3	0	0	2	1	2	0	0	1	3	1	5
+ 8	0	5	3	1	0	3	3	3	0	0	4	3	2	9
+ 7	0	6	5	2	0	9	3	0	1	0	4	4	5	13
+ 6	3	4	5	0	0	5	4	2	1	0	5	4	3	12
+ 5	1	4	4	1	1	5	3	3	0	0	4	2	5	11
+ 4	3	8	5	0	1	7	4	6	0	0	3	9	5	17
+ 3	4	8	3	2	0	8	3	1	3	2	5	3	9	17
+ 2	3	11	1	2	0	5	6	4	2	0	4	6	7	17
+ 1	8	17	7	2	1	11	10	5	6	3	10	12	13	35
0	9	12	6	4	0	11	9	7	4	0	8	15	8	31

— 1	6	11	8	2	0	6	7	8	4	2	11	10	6	27
— 2	4	5	5	1	0	3	3	7	1	1	6	4	5	15
— 3	6	4	4	3	0	4	6	5	1	1	2	8	7	17
— 4	2	9	5	1	0	6	5	1	3	2	4	8	5	17
— 5	2	9	2	2	0	4	5	2	2	2	6	3	6	15
— 6	4	8	4	1	1	7	2	6	3	0	7	6	5	18
— 7	1	2	5	0	1	1	2	2	4	0	4	2	3	9
— 8	0	2	1	0	0	0	0	1	2	0	1	0	2	3
— 9	2	1	1	1	1	0	2	3	1	0	3	1	2	6
— 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
— 11	0	3	1	1	0	0	2	1	2	0	3	1	1	5
— 12	0	1	1	0	0	0	0	2	0	0	1	0	1	2
— 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
— 14	0	1	0	0	0	0	0	1	0	0	0	1	0	1
— 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
— 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
— 17	0	0	1	0	0	0	1	0	0	0	0	1	0	1
— 18	0	1	0	0	0	0	1	0	0	0	1	0	0	1
— 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Below — 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total .	58	145	86	26	7	104	87	77	40	14	105	109	108	322
	322					322					322			

next group above or below is not so great that the replacement of a child is impractical. If he works well at the head of his own group, he would of course work almost equally well among the slower individuals of the group above. What we have never found necessary, however, on the basis of a retest, was the advancement of a child two groups ahead or the reverse. The popular idea that a child may suddenly, under propitious influences, change his pace in school to this extent is not borne out by our experience.

VERTICAL CLASSES

The intention of our plan was to allow each child to proceed at his own rate along one of a series of vertical tow-paths which provided for all speeds from hare to tortoise. We assumed, on the basis of the results of the psychological tests, that this speed was something stable within the child's own personality, and did not depend to any very great extent on whether he had a headache or a cold or was a truant or a "Smart Aleck." Now and then a teacher will tell you that this child or that does not deserve to be promoted because he is a truant. If you suggest that he will become a worse truant if "left back," she will propose the truant school. As the psychological test is used more and more in the school, it becomes the child's best defense against being "left back" or even demoted for extraneous reasons. The treatment of truancy by this crude and irrelevant punishment becomes less possible when the child has a psychological test to back up his claim to an established place in the group.

In our school, the practice was to make amendments gradually as new light was shed on the children's ability. So long as a teacher has three or four very backward children, a slightly maladjusted child is not noticed. When, however, the cruder differences are removed by homogeneous group-

TABLE XVII

COMPARISON BETWEEN RESULTS OF RE-TESTS SHOWN IN TABLE AND TERMAN'S RE-TESTS

	NUMBER OF CASES TERMAN	PER CENT				NUMBER OF CASES P. S. 64	PER CENT			
Above +20	2	.5				0	.0			
+20	0	.0				0	.0			
+19	1	.2				0	.0			
+18	0	.0				0	.0			
+17	3	.7				1	.3			
+16	2	.5				2	.6			
+15	3	.7				1	.3			
+14	1	.2				2	.6			
+13	2	.5				2	.6			
+12	5	1.1				3	.9			
+11	3	.7				3	.9			
+10	5	1.1				4	1.2			
+ 9	7	1.6				5	1.5			
+ 8	9	2.1				9	2.7			
+ 7	20	4.6				13	4.0			
+ 6	14	3.2				12	3.7			
+ 5	9	2.1				11	3.4			
+ 4	18	4.1				17	5.2			
+ 3	23	5.3				17	5.2			
+ 2	18	4.1				17	5.2			
+ 1	23	5.3				35	10.8			
0	26	6.0	37.2	59.6	81.8	31	9.6	48.9	76.5	90.1
− 1	18	4.1				27	8.3			
− 2	20	4.6				15	4.6			
− 3	34	7.8				17	5.2			
− 4	25	5.7				17	5.2			
− 5	17	3.9				15	4.6			
− 6	15	3.4				18	5.5			
− 7	29	6.7				9	2.7			
− 8	19	4.4				3	.9			
− 9	12	2.8				6	1.8			
−10	7	1.6				0	.0			
−11	7	1.6				5	1.5			
−12	4	.9				2	.6			
−13	8	1.8				0	.0			
−14	7	1.6				1	.3			
−15	2	.5				0	.0			
−16	3	.7				0	.0			
−17	2	.5				1	.3			
−18	3	.7				1	.3			
−19	0	.0				0	.0			
−20	2	.5				0	.0			
Below −20	7	1.6				0	.0			
	435	100.0				322	100.0			

ing, the individual differences in other respects begin to appear and teachers report children for such things as "looking unhappy," "seeming to be sleepy," "bright, but little self-control." These minor idiosyncrasies, which, if not followed up, may become grave, now come to the visiting teacher while they are still incipient tendencies. No child is kept back because of his psychological rating, if his work proves him able to keep up with a higher group. The test is merely a tentative guide by which to find certain actual differences early. In fact, it proved distinctly easier to shift children from one place to another for a try-out under the new classification, than it had been under the former grading method. The simple explanation was that all of us knew all the children better than we had known them before.

It will be seen from Table XVII, that the 322 re-tests made in our school yielded a slightly lesser degree of variation than the 435 comparisons made by Terman. The correlation found between re-tests in Public School 64 was .98; the correlation found by Terman was .933. The only reason we can suggest for the slightly higher degree of correspondence may be found in the specific absence of neurotic children from our group. There was no process of selection in our comparisons other than the fact that the thirty children in two neurotic classes were not included. As will be seen in a later chapter, the IQ of this type of child is less constant than that of other children.[1] There is no reason to suppose that such cases had been similarly removed from Terman's group of tests.

ORGANIZATION OF UPPER GRADES

With the seventh year of the school, the organization is divided into the academic and the pre-vocational departments. During the last term of the sixth year, the boys are given information and circulars to take home to their parents in order that they may choose intelligently between the courses. The work in the academic department needs no explanation; it corresponds to regular seventh and eighth grade work in all public schools preparing for high school.

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[1] See Table XXII in Chapter IX, page 190.

The pre-vocational department also prepares for the regular high schools of the city. This is the first fact to be made clear to the children choosing between the courses. By having a slightly longer school day than the academic department, they are enabled to spend five two-hour periods a week in one of the shops and one hour in the trade-drawing shop in addition to the regular academic periods. For the first three terms, the boy must choose a different shop for each term; but in the fourth term he may return to the shop he likes best for a second and more advanced course. The nine shops among which the pupil may choose are as follows: Joinery, Printing, Mechanical Drawing, Plumbing, Garment Designing, Sheet Metal Work, Machine Shop, Electric Wiring, Sign Painting.

It has been our policy from the first to prevent the pre-vocational department from becoming a dumping-ground for boys who did not do well in academic work. There has been a tendency in many places to recruit such a department from those who fail in the scholastic courses. While there is no doubt that boys of the dull normal type profit from working with concrete material, it is not the function of the pre-vocational department as such to supply this need. It is rather intended to broaden the educational experience of the boy and to introduce him to types of occupations for which he might wish later to prepare in a trade or technical school.

Figure 18 shows that the distribution of intelligence among 185 boys in the academic department and 112 boys in the pre-vocational department is not fundamentally different. This did not happen accidentally in a Jewish neighborhood, where manual labor is not highly esteemed, and a professional or semi-professional career is exalted above all others. In the beginning it was difficult to keep the intelligent boys from looking down on the shop courses as inferior, and to keep the teachers from persuading all the dull boys into the shops and all the bright boys out of them. But gradually, the wish to make things with their hands asserted itself with the boys against the influence of a social pride which was after all but superficial. The ability to make a bell ring or a light appear, to construct a basket-ball suit, to erect a table upon four legs, to set up and print one's name on a card — is after all more deeply thrilling to boy nature than the analysis of complex sentences or the computing of percentages. As an educational

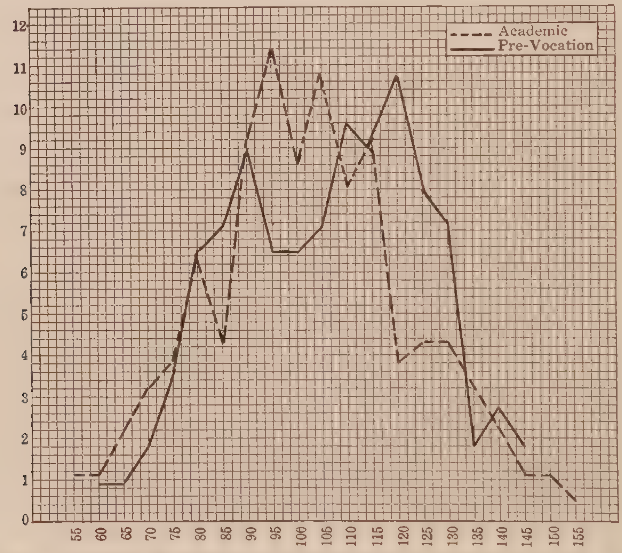

FIG. 18. — Showing distribution of intelligence in academic and pre-vocational departments of a 7B grade.

experience, it is no less essential for the bright child than for the dull one.

Figure 19 shows the relation of three curves representing the distribution of intelligence in the normal surface, the distribution among 1225 upper grade boys in Public School 64 according to the National Intelligence Test (page 47), and the organization of the school according to types of regular and special classes.

The curve showing the organization of the school is derived from the class-list and register given on pages 90–92. All classes below the fifth grade were excluded, since but a few of these remained by September, 1921, the last term of the experiment, owing to their removal within the previous year to other schools. The typical organization was found above the fourth grade only. The health classes were also excluded, as they were segregated on a different basis. This left on the register of the regular organization above the fourth grade, 2036 children. Of these, 4.6 per cent were in ungraded classes; 8.9 per cent were in opportunity classes; 56.7 per cent were in regular classes; 26.5 per cent were in rapid advancement classes, and the so-called "2" Classes (5B2, 6B2, etc.); and 3.3 per cent were in the Terman classes for very superior children. These percentages are compared with the findings of the National Intelligence Test given to 1225 boys in the same part of the school. The findings of the test as shown in Figure 8 (page 46) were as follows: 11.9 per cent, very dull; 18 per cent, dull; 55.8 per cent, average, including those just above and below; 9.3 per cent, superior; 5 per cent, very superior.

The comparison of the foregoing percentages, as presented in Figure 19, is a graphic representation of the relation of our school organization to our pupil material. It is evident from the figure that the bright children were more than amply

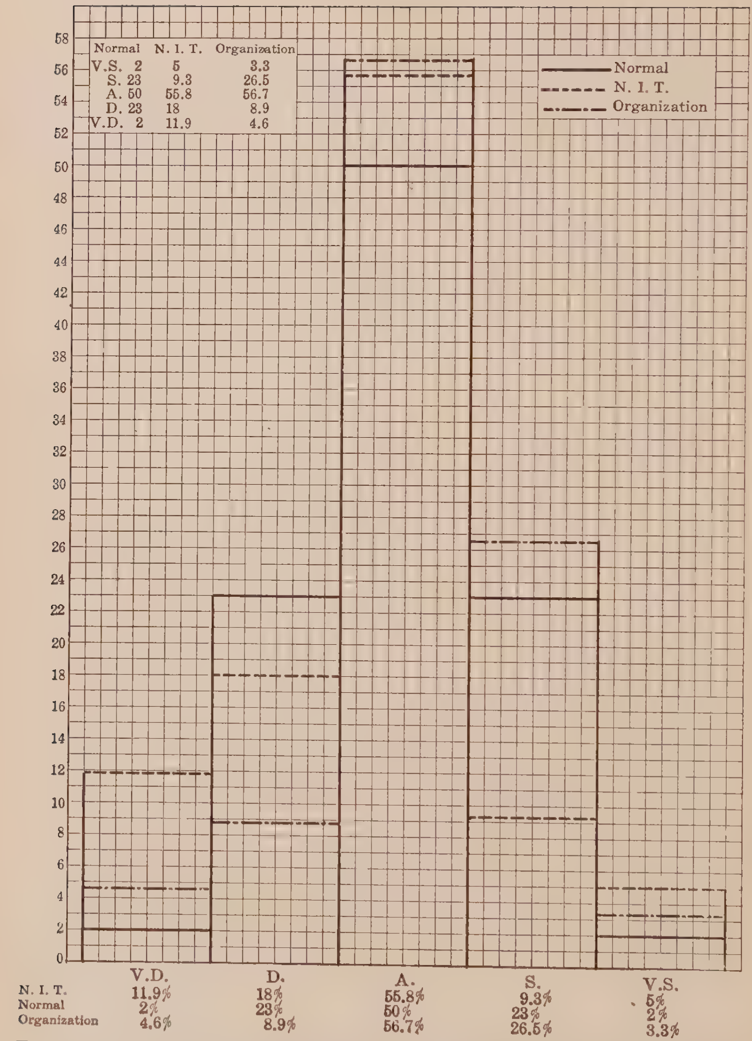

FIG. 19.—Showing deviation from the normal of actual intelligence in Public School 64 and showing school organization.

recognized and provided for in the organization. The rather generous provision on the right-hand side of the curve for the brighter pupils is partly a sign of the optimism bred by our special interest in gifted children. It may also be noted that classes for these children required no difficult adaptation on the part of the academic system; any exceptions to be made were in the direction of economy rather than expense, since they expedited the passage of the child through school. This applies to the so-called "2" classes, which were not special classes as were the Terman, opportunity, and ungraded classes.

The slump on the left side of the curve of organization shows the inadequacy of our provision for the dull normal group of children. This was not because these pupils and their needs were not recognized, for the classes designated as "1" classes and "5" classes were definitely composed of dull over-age boys. But the registers were as large as those of other classes and the requirements of the course of study were identical with those for the average child. These groups meant no economy for the school or special benefit for the boy. In the opportunity class there were fewer hold-overs and less truancy because a more interesting course of study, including shops, swimming, and a general recognition of the interests of the boys, was arranged as a concession to their needs. Yet, in spite of our deficiency in this line, probably we had more opportunity classes than the average public school. They were constantly on the increase in our school, as they demonstrated their effectiveness, and once established they were not abandoned.

Many people have a great repugnance to classifying children in types. They feel that once a child is referred to as of this type or that, he loses his flesh-and-blood qualities and tends to become merely a "case." Yet blue eyes are none the less beautiful and romantic because of our knowledge of the

Mendelian law; nor does the tiger lily seem stereotyped because we know under what genus and species it may be catalogued. The classification of children into types is an essential part of the scientific approach to education. The method of science is thus described by Bernard Hart: "It consists in: (1) The observation and recording of the phenomena; (2) The classification of the recorded phenomena into groups or series; (3) The discovery of a formula which will enable us to resume these series in the most comprehensive and convenient manner. The formula may be altogether conceptual in character. The only test which it is required to satisfy is the test of utility, it must explain the facts which we actually find and it must enable us to predict the occurrence of future facts."[1] If this is the method of science which is applied to other departments of life, it must also be the one which education must adopt instead of the blind trial-and-error method with which we have so long been too contented.

To this extent, the popular "hunch" is right: no two individuals are alike; a child may be one type intellectually, another type emotionally, another physically, and so on throughout the series, discovered and undiscovered. The crossing of types and the interplay of tendencies make for infinite variety of personality. The more one knows about the types of human beings, the more one knows about a child. The more one knows about children, the more one realizes that the number of types in regard to any one trait is finite.

While placing an individual child in a type does not solve his problem, it is one of the greatest aids in thinking about him clearly. It helps the teacher to call upon those resources which have a particular reference to him. If she realizes that he is of the same type as another child on whom she has spent much time and trouble in the past, she goes to work more constructively. If her earlier experiment was not successful, she is less likely to repeat it automatically in dealing with another boy whom she knows to be of the same type. She will rather undertake some new plan and in a more hopeful spirit. All this means new possibilities of initiative for the teacher as well as a better outlook for the pupil. It is for lack of such a positive and constructive attitude toward the human material in their hands that many teachers fail to find a personal stimulus in their profession. A better understanding of the mental problems involved would do much to relieve teaching of its drudgery and revivify the atmosphere of the classroom.

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[1] Hart, Bernard. *The Psychology of Insanity*. Cambridge University Press. 1920 Reprint. Page 12.

CHAPTER VI

THE COURSE OF STUDY

Before we go further in our description of different types of children and the reason why they are misfits in the school, we want to make clear that we hold no brief for the curriculum as it is, even for the normal child. The following chapters will deal with the adaptations that a flexible curriculum should make in response to the needs of children who deviate from the average in one direction or another. The present chapter is concerned almost entirely with the curriculum in relation to the middle 75 per cent of the curve of distribution, whose individual differences lie within the normal range of variation. Let us assume, for present purposes, a group of pupils who are not mentally defective, exceptionally bright, dull, neurotic, or physically handicapped. Against these average children, we wish to measure the public school curriculum, which was supposedly made to serve the needs of this so-called normal group.

We cannot criticize the present method of administering the course of study in standardized doses without taking into consideration the force of the demand made upon public schools for uniformity. About one-seventh of the elementary school population of New York City changes from one school to another in the course of each school year. This means that nearly 100,000 pupils move from a grade in one school to the same grade in another school overnight, and are expected to find a niche in the new classroom similar enough to the one they have left not to feel the jolt. We are not able to discover how many children who are transferred from school to school during the year actually lose their promotions.

It is our impression, however, that this number is not small. The child who enters the class during the term runs a special risk of being left back. The teacher who gives as excuse for a child's non-promotion that he has come so recently from another school that he has not yet caught up with the class, is listened to without question. No supervisory staff is deaf to the flattery of the implication that the standards of other schools are not so high as those of its own.

If the assumption is true that many of the transferred children risk their promotions anyway, why make such a fetish of uniformity to prevent something which it can scarcely be said to prevent? Any proposition to experiment with the curriculum never fails to encounter this objection. Must we then everlastingly sacrifice the 85 per cent of the children who stay put for the hypothetical benefit of the 15 per cent who move? Probably the inflexibility of the goose-step curriculum is itself the source of the maladjustment of the newcomer, who is totally lost if he is one beat out of step. His chances to right himself would be better under a more elastic interpretation of the requirements. Possibly the substitution of pedagogical tests, with age rather than grade norms, will be one means of lessening the hardships of the minority of children who change schools during the year. Since we are speaking of normal children, the whole question seems more or less academic anyway. The school could well afford to put more trust in the normality of the normal child, who is well able, with a little leeway, to get off and get on again educationally in the same way that a healthy infant can fall down and get up again.

Another bogey that confronts the advocates of a more flexible course of study is the universal goal of getting every child ready for high school at a stated time. At present all children enter school at the age of six with the general expectation that they will enter high school at the age of fourteen. With this end in view every effort is blindly bent toward its accomplishment, and little consideration is given to what is happening to the child along the way. If the attainment of this goal were possible for 100 per cent of the school population, it would still be doubtful whether the destruction it entails would be justifiable. As a matter of fact, however, the school statisticians furnish figures to show that only 13 per cent of the six-year-old aspirants enter high school at fourteen; and less than 20 per cent enter high school at any age. Here again we are submitting 80 per cent of the elementary school children to a rigid lock-step procedure on a theory which absolutely flies in the face of the facts.

It would seem as if the very tenacity with which the goal is pursued helps to defeat its attainment. Perhaps, if we were more interested from the beginning in making the school fit the child and permitting him to enjoy life within its walls, there would be more children desirous of continuing their education beyond the elementary grades. If it were true that the 20 per cent who now go to high school coincided with the number of individuals along the curve of distribution who were endowed with the type of intelligence which could successfully meet the present standardized requirements for high school entrance, the case would be no better. Does it not seem odd that the people of limited intelligence should be discouraged from prolonging their period of training by such a narrow view of education? Would it not be more logical to extend, especially for those who adjust to life with difficulty, the protection which a higher school should ideally provide for the years of adolescence? The elementary school and the secondary school are at present coöperating all too well in terminating the education of 80 per cent of the school children at the earliest legal moment. With a different conception of what education is about, it would be possible to establish the same degree of coöperation in the direction of permitting every child to pursue his education profitably and happily from his sixth to his eighteenth year.

If this attitude of anxiety concerning the goal and the way-stations were replaced by a faith in the principle of growth, much-needed experimentation with the curriculum would then be encouraged. We all know the folly of pulling up a bean to see how it is growing, but we have not yet learned to trust the human plant to flower without a periodic panic about its rate of progress. Under our present educational system, every pupil is conscientiously yanked up by the roots at least twice a year. With this official inspection always impending, neither teacher nor pupil breathes an atmosphere of freedom, which is the first condition of unself-conscious growth. It is too much to ask the school authorities and parents to grant complete exemption from this time-honored custom; but enough uneasiness concerning the old methods exists to justify the demand for longer periods between successive days of reckoning. Furthermore, psychological tests have produced surprising results in showing that normal children of the same age arrive at very much the same place by widely varying educational paths. There is reassurance in this for those of little faith who fear that any departure from the conventional curriculum will turn their normal children into freaks and oddities.

AN EXPERIMENT WITH A NORMAL GROUP

The only experiment[1] with the curriculum for normal children in our school was undertaken with the understanding that no rigid academic standards were to be enforced until the fourth year. A group of thirty-five boys was selected with IQ's from 100 to 115. The classroom was equipped with movable furniture, benches, tools, and a piano. A specially trained teacher was provided in addition to the regular one until it was possible for one of the regular staff to train herself to take full charge. The group has remained practically unchanged throughout the experiment. The class was assembled at the beginning of the 1B grade, that is, after they had been in school one term; and it has now reached the beginning of the fifth year.

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[1] This experiment was carried on under the direction of Mrs. Marietta Johnson of the School of Organic Education, Fairhope, Alabama. Mrs. Johnson raised a fund sufficient to provide an extra teacher for three terms and to equip a room with furniture and supplies. She also gave the experiment her personal attention for one year by weekly visits, and trained the teachers for this class in her summer school.

The story of what was done with this class had best begin with what was not done. We did not enforce the taboos, restraints, and prohibitions of the ordinary classroom. The interests of the children were largely allowed to initiate and guide the activities within and without the school. One group of ten underweight children undertook the study of nutrition, which entailed buying, cooking, and eating their own lunches in the kitchen of Christodora House. Another group became interested in the study of transportation in the streets and from the docks near by. A third group was chiefly interested in drawing and color work and clay modeling. The whole class was enthusiastic about the dancing, singing, story-telling, and excursions into all parts of the city. They became interested, one year especially, in studying the lives and habits of animals, both in the animal room of the school and in the zoo. One of their favorite activities from the first was in dramatics and impersonations. They loved to improvise plays and costumes, and fell into it as readily as many children play tag. They learned to know and use each other's talents, and coöperated in many enterprises that kept them together outside of school hours.

The group spirit was strong and the many learned from the few. One of the boys had a strong interest in drawing. When the class went to Wanamaker's store to see the Christmas toys, he strayed by accident into the art gallery. The next day he was truant, and on the next he was discovered with paper and colors copying the "Holy Family." Instead of being rebuked, he was allowed to take part of the class with him, each to copy a favorite picture. From this experience, they got the idea of painting the fish in the aquarium and the animals in the park. They sketched boats from the dock, trees from the window, and made portraits of each other. Thus they grew away from the neighborhood conception of art as literal copying and photographic imitation.

Although the formal work had always been given a secondary place and had been allowed throughout to function as means to an end, at the end of the fourth year it was found that the class had suffered no academic loss. On the contrary, a series of pedagogical tests showed them to rank above their grade as a group and, what was more surprising, there were no individual laggards. At the beginning of the fifth grade when the experiment was regarded as ended, they fitted into the formal organization of the school without any academic dislocation. Incidentally, they had done seven terms' work in six. The testimony of the teachers was that they were more stable, and socially better adjusted than the average fifth grade child. They had read more widely, spoke more fluently and correctly, and asked more intelligent questions. They were outspoken, inquisitive, and fluent letter writers. Their superiority was visible to the naked eye and visitors always mistook them for a Terman group.

WHAT IS WRONG WITH THE CURRICULUM

In watching the progress of this experiment from week to week, we have come to see more clearly what is wrong with the regular curriculum from the point of view of the normal child. In the first place, it is too much concerned with giving information and too little concerned with affording opportunity for experience. In the second place, it deals too little with the realities of child life and too much with abstractions and symbols. In the third place, it disregards the capacities of the child by forcing subjects down his throat before he is mature enough to digest them. In short, the stereotyped course of study has been built up to follow a logical sequence from the point of view of the adult mind rather than to follow the development of spontaneous interests in the child.

Education should not consist of acquiring information but of acquiring experience. A youngster may grow up in an environment rich with educational possibilities and yet be entirely shut off by the attitude of the people around him. Just as the child in the home of an ignorant farmer may grow up without any acquaintance whatever with the plant and animal life about him, so the city child is apt to know nothing of the industrial processes and the other occupational features of his own environment. As soon as the child enters the school, it begins to separate him from reality. Many a six-year-old does not know the names of the garments he wears and the food he eats. Yet he is crammed with columns of spelling words and rows of figures without regard to whether this mental food is analogous to milk or pickles. The modern science of nutrition has far outrun the science of education. It emphasizes not only the quantity of food but its quality and kind.

Furthermore, the unscientific pabulum of the school is administered on an unscientific schedule. Why do we have to hurry things along so fast? If adding is hard at seven years, why not leave it till nine? If reading is hard at six, why not teach it at eight or nine? There is enough educational experience that is wholesome for six- or seven-year-old children, without overdrawing their account with life in advance. It is like paying a high price for strawberries in February when you can have them abundantly in June at moderate cost. This hot-house forcing is characteristic not only of one subject in the curriculum but practically of all of them.

SHALL READING BE LEARNED AT SIX

It is almost impossible for a normal child not to learn to read before he is ten if he is exposed to books by those who value them. On the other hand, it is often torture for an imaginative child of six or seven years of age to sit through period after period of "was" and "he" and "go" and other abstract symbols. The irksome drill of the reading class is not really for the good of the child, but serves chiefly to allay the fears of parents who are in a panic lest their children may turn out at ten to be illiterate. They seem to need reassurance all along the line by a series of universal signals that their children are as well equipped as other children are. If Willie can read as well as Johnnie, then Willie's mother can look Johnnie's mother in the face without shame; and it is the exceptional father who does not love to take his nine-year-old daughter's letter from his pocket and exhibit it to his business friends.

For such reasons, the child is subjected for several hours every week to stories of Johnnie Jack Rabbit in words of one syllable and endless repetitions concerning the adventures and misadventures of Gruby-Gruntum and Toby-Trottum, until, if he has any mind at all, he learns to close it when the reading book is opened. Is not literature a broader foundation for culture than this parrot-like drill, made necessary by trying to teach the child to read two or three years before it is easy for him?

Almost no child is too young to begin the study of literature. Mother Goose rhymes, folk tales, stories of everyday life begin to interest a child during his second year, and from then on he will take all that he can get. Because he is not taught reading at an early age is no reason to skimp his fund of imaginative material. In a public school no reliance can be placed on what the child gets at home; the classroom must undertake to provide content and culture for him. The young child's mind is avid and curious and responds to the appeal of literature before it develops to a point where the technique of reading is readily acquired. The more affection a child has for the ideas that come out of a book, the less resistance he will have to acquiring the symbols which represent them.

The relation of the middle and upper grade pupil to the printed page exhibits the failure of the formal reading lesson as an educational method. Although he has presumably mastered the technique of reading by this time, he is helpless in the face of a printed paragraph. If he is put to a test based on his comprehension of something he has read, he is likely to grow paralyzed or panicky at once. Place in the hands of any sixth grade boy or girl a can of soup on which are printed the instructions for serving, and observe how far he can carry them out without appealing to some adult with questions which are answered in the print on the can. The same child will read you off the sentences aloud with absolute correctness and complete self-satisfaction. His self-confidence begins to fail him just at the point where he is asked to evince his comprehension of what he has read by putting it into practice. The conventional reading course often leads children into a kind of glibness which actually prevents them from gaining any real rapport with the printed page. For this reason good oral readers sometimes fail in a silent reading test.

DRAMATICS IN THE SCHOOL

If young children are genuinely thrilled by word-pictures and stories, their first impulse is to act them out. A large part of a little child's imagination is in his muscles and senses: his concept of a toad is a hop; his concept of a dog is a wag; his concept of a pig is a grunt. As he grows older he elaborates these simple imitations into more complex acting. One of the advantages of story-telling in the classroom instead of at home is that the children form a group which can coöperate in playing out all the characters of the story. Impromptu dramatizations of stories read and original plays, all done spontaneously and not rehearsed, are educational experiences. If the idea of adult audiences is entirely eliminated, then originality and spontaneity, the enemies of self-consciousness, take the place of repetitions and rehearsals. The emphasis here as in anything the child does should be placed on what happens to him in the act of creating, not the quality of the finished product from the grown-up point of view. The worst enemy of true education is the fetish of perfection.

TEACHING THE SCHOOL CHILD TO TALK

In its feverish haste to teach the child to read, the school forgets entirely to teach the child to talk. The taboo on talking in the classroom is carried to such an extent that even when the children are turned loose on the playground, they communicate with each other almost entirely by nudges, shouts, and monosyllables. With the single exception of the kindergarten, no provision is made in the public school curriculum for children to introduce topics of interest to themselves and discuss them with their classmates. Is it not within the province of the school to teach children to converse with each other intelligently instead of placing a premium on furtive whispering, which is at present their only outlet for a normal desire to be sociable? If young children were given the opportunity to develop fluency on topics which are stimulating and thrilling to them, then perhaps the "Oral English" periods of the older children would not be so lacking in ordinary coherent and vivid presentations. The pitiful struggle of a seventh grade teacher to make a boy use a subject and a predicate in the same sentence is but the natural consequence of the monosyllabic and savage communication not only tolerated but encouraged by the methods of the lower grades.

Little children are not supposed to have anything to say. They are therefore expected to sit still and have information poured into them until about the age of twelve. At this point, the process is reversed and the school suddenly begins to demand of them that they shall show evidence of the accumulated erudition they have passively received. Unfortunately, the human mind does not work in this way, and the result is usually a disappointment to those who have devised the scheme. Perhaps if the children were allowed to discuss the things they were interested in and to assimilate to these the subjects naturally related, they would inevitably store up a fund of information about life that would make them able to respond, at least more intelligently than they do now, to almost any question a seventh grade teacher could ask.

LEARNING TO WRITE BY ORDEAL

Nothing so violates the knowledge we have concerning the physiological development of the child as the early insistence on learning to write. The child struggles and strives and spends enormous energy in trying to make good handwriting at an age when he ought not to be writing at all. The school considers that the push-pull refrain that enlivens the writing period in most classrooms is a great concession to the use of the large muscles. Even if the method does away with the use of the small finger movements, which is doubtful, it demands a close coördination between hand and eye which ought not to be exacted. Probably no child under eight should be expected to form letters less than three or four inches high, and even then no high standard of perfection should be imposed. The amount of nervous strain which a child endures in trying to learn to write before he is ready is more than a growing organism should be subjected to. It is one of the most egregious of all our inherited educational errors.

THE VENERABLE ABSTRACTIONS OF ARITHMETIC

Dare we question the most sacred of all the three R's, arithmetic? Entrenched behind centuries of tradition the teaching of arithmetic has grown into a pedagogical bad habit almost impossible to break. Why do we have to teach children to count to 20 in 1A and to 100 in 1B? Largely for the same reason that a master teaches his dog to sit up and beg — because he has heard it can be done and wants to try it and see. Would it not be worth while to see if there is not something of equal or greater value from the child's point of view than the trick of counting 100 or writing it on a blackboard? If a child of six is interested in 100 at all, which is doubtful, would he not be more interested in seeing 100 buttons on a table, or in looking down on 100 houses from the roof, or in seeing 100 children when three classes are assembled? He would eventually become interested in stepping 100 steps, bouncing his ball 100 times, and so on indefinitely with his hundreds and fifties and twenty-fives and fives until numbers really had some meaning. Perhaps as he approached eight years or so, it does not matter exactly when, he might be glad to write the symbol 100, to score a game or to satisfy some other end of his own.

With no real concept of the "feel" or use of numbers, the only motive that can enliven a class in arithmetic is the rather hollow and too self-conscious rivalry that is artificially stimulated by the teacher. Concrete materials should be provided in abundance. Every kind of actual and practical device for weighing, measuring, and realizing quantity and number should be familiar to children before they begin to write symbols on paper. Because bright children learn abstractions more quickly and easily than slow ones is no reason why they should skip over this important step. Although they may come more quickly to the stage of desiring the convenience of using symbols, they will use them more comprehendingly and originally if the symbol has content for them.

With an introduction to arithmetic composed of experiences connected with quantity and number, much time now spent in so-called "number-drill" might be more profitably employed. In fact, if the use of concrete materials were introduced into other occupations of the day instead of being isolated into a single separate period, it would establish a healthy union between mental and manual work now absent from the curriculum. Guessing heights, weights, lengths, and distances, and checking up by means of accurate measures may be made a part of any occupation from the playground to the cooking class.

SCIENCE FOR YOUNG CHILDREN

What is there behind the idea that science and mechanical interests belong to the high school years and abstract numerical work to childhood? The inside of a lock, the turning of a sprocket-wheel, the action of a piston are all within the grasp of a seven-year-old child. He need not comprehend the whole complicated idea behind these things, but from observing how they work he can get a primitive conception of cause and effect. The child understands a see-saw. A simple latch works like a see-saw; you push down one side and the other goes up. A more complicated lever but working just the same way is mysteriously concealed between the door knobs of any classroom. But who ever thinks of telling these things to young children? Simple mechanical and scientific facts are really better tools for the child to reason with than the multiplication table. Science deals with concrete things appropriate to young children; it gives information of a type that interests them. Yet the subject is usually reserved until adolescence has awakened a desire for more idealistic and romantic interests.

THE BOOKISHNESS OF GEOGRAPHY AND HISTORY

The teaching of geography and history is blighted by a bookishness that often shuts the child out from the world he lives in, instead of opening it up to him. He learns the points of the compass from a conventional map before he learns them from the movements of the sun, and perhaps the north always remains strange to him because his desk was screwed to the floor in such a way that the lines of longitude ran east and west. He is crowded by symbols even when the facts of nature are within his reach. Still less does the school attempt to make up for the facts of nature beyond his reach. The city child knows nothing of the railroad, the movements of the tides, the formation of hill land and swamp land. The curriculum should provide excursions to the country as well as to other parts of the city. Every school should own a bus large enough to carry a whole class. The children could then be taken into the country for nature study, for gardening, for out-of-door cooking. These excursions are now sometimes made once or twice a year as rewards for good behavior, the teacher bearing the expense.

They should be a regular part of school work and the means of transportation should be provided by the school. The educational value would surely justify the expense.

At the same time, the city child has his own environment, which can be used to open up all the avenues of the world and all the chapters of its history. The street experiences of the neighborhood are rich in suggestions. The children come in contact with the dress, manners, and language of many foreign countries. They have an unusually early acquaintance with the uses of money. A timber-yard, a fish market, a cap-maker's shop are familiar sights; yet few children can tell you anything about them. Why should they not be as much interested in these everyday affairs as in the head-hunters of Australia or the worship of Buddha in India? As a matter of fact they are; but in entirely different ways. One represents reality, the other phantasy; the well-educated child would be stimulated towards an interest in both.

WHAT THE YOUNG CHILD SHOULD LEARN

Young children should learn to use their bodies and muscles; to be gentle, polite, and curious. They should learn to ask questions and be interested in the answers. They should collect and classify things. They should learn languages; if there is need of learning languages, the period under ten years is the time when this is most readily done. Music may be learned almost unconsciously by little children. Why are not rhythm of motion and sound, dancing and singing and beating a drum more appropriate to seven years than the stereotyped abstractions of academic lessons?

Many children acquire a permanent dislike for literature, music, or mathematics through the shortsighted policy of the school which forces these subjects upon them while they are still unprepared for them. The difficulty of the conceptual material or the adult point of view leads the child to dislike the subject all the rest of his life. From simple dislike it is a short step to the feeling that one has no aptitude. We are constantly meeting adults who say that they have no appreciation for music or that they always hated mathematics. Such attitudes are often traceable to wrong methods of teaching and to associations formed in childhood and now grown to such proportion that they form a real adult disability.

The child should learn in school the art of sociability. The faults of an educational system based on the three R's are so manifest that intelligent parents sometimes raise the question, why send the child to school anyway? Cannot the well-educated parent, though an amateur, do better by his child than the professional teacher? But the school is not merely a place where lessons are learned and recited; it is preëminently the place where the young individual learns to make social adjustments to other individuals of his own generation. Since the family has grown smaller, the social contacts of the schoolroom have become more important than ever. The school provides this opportunity and is in this respect unique. There is no substitute. It is possible to educate a child ideally from the intellectual point of view, and yet to educate him in such a way that he is wholly set apart from his fellows. The parents of gifted children especially have this danger to consider. While genius has existed in isolation and has made historic contributions to civilization, there are few parents who would deliberately choose to educate a child for solitude. A person's adjustment to other people depends to a large extent on sharing with them a common mental background. Even the public school curriculum, with all its faults, has at least this social value. It supplements the more specific social value of the human contacts made in school.

THE CLASSROOM

As the child needs other children around him, he also needs concrete materials to handle. The emptiness and colorlessness of the typical classroom from the child's point of view represents extreme poverty of experience. The ideal classroom will have plenty of wall space and small blackboards. A screen or a bulletin board for the class to use for posting is necessary. A property box, no matter how simply stocked, is essential. A glass case or cabinet for collections forms the foundation for the class museum. A piano and at least one work bench and a box of tools, regardless of the shop, should form a part of the regular schoolroom equipment. A closet for materials should contain paper, paste, clay, wood, etc. If possible each child should have a locker in which to store unfinished pieces of work. Rooms for younger children should have a rug for each child and one large rug, so that the children may sit on the floor for stories and reading. Furniture that can be moved and chairs to fit the tables and also to fit the children are desirable for the sake of free atmosphere as well as for physiological reasons.

HOW LARGE SHOULD CLASSES BE

Equipment of this kind presupposes classes of not more than 25 children. Good education, like everything else, cannot be cheaply obtained. Classes of 40 and 50 children can never be made really educational by means of any thinkable reform. Even homogeneity of intelligence does not justify these unwieldy groups, for, as we have said over and over, the child does not come to school merely to be efficiently instructed. Since the day of Jean Baptiste de la Salle, who founded the Order of the Christian Brothers and invented group teaching, the school has followed this ideal of instruction and no other. The Herbartian movement of the nineteenth century tended to center all educational endeavor in the problem of standardized instruction and the adoption of stereotyped forms.

Under the influence of these pedagogical traditions and the stress of congested city populations, the schools have, with but slight apology, permitted 40 and 50 children to be assigned to one teacher. Public education has come to be a highly specialized technique for mass teaching. This is so true that most teachers, when placed in charge of groups of 20 to 25 pupils, use the very same methods of teaching and class management that they used in teaching classes with registers of 45 and 50. This is probably the reason why Rice, in his investigations some twenty years ago, found that the results of instruction bore no relation to the size of the class taught. So far has this process now been carried, and so intrenched has it become by the methods in normal colleges and training schools, that teaching the individual child has become one of the lost arts. What education needs most of all is the rediscovery of the individual child by the individual teacher. In the foregoing chapters we have described certain scientific aids to this discovery. But until we have smaller classes, no educational reform of any character will avail very much. Classes should be not more than half their present size and no system of classification will ever make a larger class unit into a really teachable group of children.

THE ATMOSPHERE OF THE SCHOOL

In regard to matters of discipline and conduct, the school has adopted formal standards similar to its scholastic requirements. This leads to mere negativism and repression, since the more positive virtues of human character are difficult to standardize. No martinet can help children to be really "good," for conduct which deserves this name is never the same as routinized behavior. To anyone who is sensitive to such things, it is possible to detect almost immediately upon entering a building the temper of its leading spirit. We tried in our school to be rid of that oppressive something which strikes you with an almost palpable force when you open the door of a large, over-regimented school. Children should not burst forth at noon like the cork out of a bottle; some of the freedom of the playground should come in with them and some of the dignity of the schoolhouse should go out with them.

THE EMOTIONAL EDUCATION OF THE CHILD

The school should above all things be a place for children to get the habit of being happy. Has anyone ever yet read the record of a crime which was committed by a contented and happy person? We have been forced to the conclusion that many of the so-called problem cases of every school would be no longer problems if we realized the effect of our school curriculum upon the pupils. The children often develop antagonisms to teacher, subject, and school because they are bored. How many healthy, normal, grown-up people would patiently stand the daily grind of a so-called education which they did not understand or which did not give some play to their natural and instinctive desire for self-expression?

It is true that Rousseau stressed the value of natural instincts, that Pestalozzi attempted to put his theories into practice, that Herbart spoke of character as the desideratum of education, and that Froebel was dominated by the idea of free development; yet while we speak and think in terms of these great reformers, the schools in practice have never yet succeeded in catching up with the spirit of these leaders.

One of our high schools has taken for its motto, "more happiness in education." It is not enough, however, that such well-intentioned slogans should be adopted by the school. They may prove as sterile of results as the inspired teachings of our educational geniuses. This is sure to be the case, as long as they remain, from the teacher's point of view, in the domain of pure theory and sentiment.

The school has this to gain from an alliance with mental hygiene: that happiness in education need not remain merely a pious hope but may be translated into a technique of living. The educator can no longer evade his responsibility for the emotional development of the child on the ground that a science and technique are lacking. Already the beginnings of such a science and technique are in existence and are widely applied in the cases of people with pathological tendencies. The improvement as well as the utilization of this technique rests largely with the schools where the emotional education of the normal child is more neglected than that of his erratic brother. The school has assumed that the emotional development of the normal child could be taken for granted, but that his intellectual development should be subjected to ceaseless prodding and surveillance. What education chiefly needs is that we shall take more for granted in regard to the child's intellectual development, and take more thought about teaching him the art of happy and productive living.

CHAPTER VII

The Ungraded Classes

The first and most popular use of psychological tests was in the scientific detection of feeble-mindedness. The implications of this use are numerous and far-reaching. The imagination of the biologist, the sociologist, the criminologist has seized upon it as a method of negative control; the biologist sees it as a means of eugenic selection; the criminologist, as a method of protecting society by segregation; the sociologist, among other things as a new way of controlling immigration. In one fashion or another the intelligence test has been chiefly viewed as a scientific method of improving the race and society by the elimination of the unfit. "Let us have the finger-prints (of every person in the nation)," writes a biologist, "but before everything else let us have a mental classification of all children of school age. When once this has been done perhaps the least intelligent group can ultimately be denied the suffrage as are imbeciles, insane, and criminals at present."[1]

These negative functions may be logical deductions from the social and evolutionary point of view, but for the educator they are not relevant. It is the factor of individual educability that interests the teacher. For him the only legitimate point of view is to educate the child for himself, which is ultimately for society. The first consideration with every child is this: what kind of school experience is going to contribute most to his own personal and social fulfillment?

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[1] Conklin, Edwin Grant. *The Direction of Human Evolution.* Scribner, New York, 1921. Page 105.

People are too apt to form the habit of thinking of all mental defectives as imbeciles or idiots. Before the introduction of psychological tests, the diagnosis of defectives was largely dependent on physical stigmata, such as a misshapen head, lagging gait, drooling at the mouth, or a foolish grin. Only the lowest grades of feeble-mindedness can be thus distinguished. Such children exist in limited numbers in every community and should receive the same consideration which is given to physical cripples. They should not be barred out of school but should be given a nurse's care, if necessary, as it is given to cripples and cardiac cases. Unless their parents are able and willing to place them in institutions, the school should provide for them. When properly taken care of, they are not a menace to other children, and the public school offers their only opportunity for training and education. All children above the grade of idiot are to some degree educable; should they not therefore have the right to some kind of schooling? There is no law compelling parents to put these children in institutions. If parents do not voluntarily prefer custodial care for them, there is no place other than the school where they may receive the limited amount of training which they are able to profit by.

THE UNGRADED CHILD

In the ungraded department of our school there were scarcely half-a-dozen children who could be recognized as mentally deficient by their appearance. The few low-grade children who came to us were exchanged with other schools for high-grade problem cases. Our group of 150 ungraded children did not include any low-grade imbeciles; the IQ's ranged from 41 to 75, the mental ages from 4 to 11 years (see Tables XVIII and XIX), with the greater proportion in the upper ranges. These children represent a more important educational task than the low-grade group, both because they form a larger group within the population, and because they must be fitted to take some part in the work of the world, while the low-grade children eventually find their way into institutions or come under some form of custodial care.

TABLE XVIII

SHOWING DISTRIBUTION BY IQ'S OF 150 CHILDREN IN UNGRADED DEPARTMENT

IQ	Number of Cases	Percentage
71–75	31	20.7
66–70	45	30.0
61–65	31	20.7
56–60	23	15.3
51–55	16	10.7
46–50	3	2.0
41–45	1	.6
Total	150	100.0

TABLE XIX

SHOWING DISTRIBUTION OF MENTAL AGE OF 150 CHILDREN IN UNGRADED DEPARTMENT

Mental Age	Number of Cases	Percentage
4 years	11	7.4
5 years	9	6.0
6 years	17	11.3
7 years	26	17.3
8 years	43	28.7
9 years	30	20.0
10 years	9	6.0
11 years	5	3.3
Total	150	100.0

The ungraded department was originally started for the more obvious types of mental defectives. As the knowledge of types increased, the department was gradually extended to meet the needs of high-grade defectives also. The originator of the ungraded department, Miss Elizabeth Farrell, discovered about twenty years ago that there were children in the school who could never meet its inflexible standards and rigid demands, and that the school itself must bend if these children were to be educated. The spirit in which the department was conceived was that of trying to make it up to such deprived children for what had been omitted from their native endowment. The department was not created primarily as a method of segregation nor as a means of getting rid of an inferior group of individuals. It was planned from the beginning as a place where the mentally defective child could receive the kind of training that he needed. For his sake, the most unquestioned school conventions were set aside and an entirely new type of education was invented. This educational aim has been consistently pursued.

Throughout its history, the ungraded department has never lost sight of the fact that it existed for the child as a sufficiently important end in himself. The discovery of this type of child-mind, retarded and yet educable, and the invention of a special kind of education for its needs, is a notable chapter in the history of the science of education. It is one of the anomalies of the public school system that the best education is given to the children who are intellectually the least endowed. This is one of the few departments of public education into which imagination has gone in the last hundred years. The truly creative pedagogy of this era has been concentrated on making a curriculum for children of limited intelligence.

THE UNGRADED DEPARTMENT

Freed from the pressure of the conventional public school demands, the ungraded department has been able to duplicate in many respects the conditions of the best and most enlightened private schools in the country. The classes are small, between fifteen and twenty children forming the register. The ungraded rooms have no fixed furniture — the prison furniture of our public schools is one of the many evils of overcrowded classes. Once the registers are cut in half, as is already done in the ungraded department, it becomes practical to humanize the atmosphere of the schoolroom. Not a desk nor a table nor a seat is screwed to the floor throughout the ungraded department. Each child has individual treatment; he is not fubbed off with one-fortieth or one-fiftieth of the teacher's attention.

Not only in size and equipment do these classes set a high standard, but everything has been done to make the ungraded teacher the best representative of her profession. With the adoption of a special curriculum, it was soon found that specially trained teachers were necessary. Not only preparatory training but continued training has been the requirement for this work. Along with the courses in classroom technique, the teachers are required to study psychology and social science as related to their special problems. An increased salary schedule has made it possible for the department to keep up these standards. All this has served to bring about a professional attitude toward their work which is characteristic of the entire corps of ungraded teachers.

The children are assigned to the classes by the clinical staff of the department. Clinics are held at headquarters and also in different schools. The child is given a physical. psychological, pedagogical, and sociological examination before being placed in the special class. When the ungraded department was first originated, the available methods of examination and diagnosis were more or less crude and tentative, so that only the most indubitable types could be distinguished. But the department itself has done a great deal towards the development of clinical methods which increase the accuracy of diagnosis and make it possible to distinguish the higher types. The arrangement whereby a central responsible staff was put in charge of assignments to the ungraded classes has prevented them from becoming the dumping ground of all sorts of problem cases and has preserved them for their original purpose.

The most radical innovation of the department is found in the curriculum. The fundamental novelty is that it takes account of the child's capacity and experience instead of merely carrying on the accumulated traditions of the intelligentsia of bygone ages. The department has the supervision of its own course of study, which has been developed by a process of actual experimentation. One of the characteristics of the subnormal child is that his sense-organs are under-developed as well as his intellectual grasp. Just as in the normal child an ear for music may be cultivated, so in the subnormal child the five senses are amenable to training. Periodic tests throughout the year have shown that the keenness of his senses increases under cultivation. Not that it isn't equally true that any normal child would do better to learn to hear, taste, and smell, than to read at the age of six; only the schools have not yet discovered this.

Another characteristic of the subnormal child is his helplessness. By working with concrete materials and producing tangible evidence of control over his environment, he vindicates his existence. The child who takes home a yellow box of his own making is able for the first time to put himself across with his family. Incredible as it may seem, many of these children button their own coats and lace their own shoes for the first time in the classroom. A feeling of budding power over his environment in an individual is perhaps the most educational experience he can have. This comes to the normal child seldom enough but to the subnormal child scarcely at all unless it is especially developed in him. He becomes accustomed early in life to being pushed aside from almost every undertaking by someone who can do it better, until his originally feeble stock of initiative is entirely sapped. It is an important job, but not always an easy one, to nurse it back to life. Without such fundamental experiences as these, there is no such thing as growth.

It seems unfortunate that such an intelligent way of constructing a course of study should benefit so small a group of children. There is no type of child who would not profit by some modification of this humanized curriculum. Parents of normal children might well covet for them the superior advantages of the ungraded course. It is at least a hopeful sign that such a department exists with official sanction. It is bound to have an influence far beyond its own boundaries for the better education of all children.

HISTORY OF DEPARTMENT IN PUBLIC SCHOOL 64

The ungraded department of Public School 64[1] started with two classes in 1913. They were made up of high-grade, middle-grade, and institutional cases. The pupils were selected in the regular way, the teachers reporting troublesome boys or boys who could not keep up with the class work. The good boy who merely sat quiet often escaped the notice of the teacher and was not singled out for the ungraded class, while the boy who could not control himself in this way but had to do something to attract the attention of his fellows, was recommended. There was always a long waiting list because of the large school population and the limited equipment and room space. A new admission took place, not when a boy was found who should be in an ungraded class, but when an ungraded pupil became sixteen and left school or when one moved out of the district.

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[1] The development and organization of this department in Public School 64, described in the following pages, was very largely due to the work of Martha A. Barney, teacher of the first Ungraded Class in Public School 64, who has supplied for this chapter a detailed history of the department.

The two original classes occupied one room, the instruction being given by a regular ungraded teacher, and a substitute teacher who acted as a helper. The thirty-two pupils ranged from institutional cases to children who were but three years backward, and ranged in chronological age from eight to sixteen years. The work resembled a three-ring circus, with "Fat" using the cloak closet as a street car, with his constant "Whoa," "Fare," and "Ding-a-ling"; with Pasquale demonstrating the method of procedure in taking an apple from a push cart; and with Stanislaus constantly cutting the other children's hair when he could snatch a pair of scissors from a child who was doing paper cutting for busy work. The teacher, in the meantime, might be trying to teach an arithmetic or reading lesson in front of the room to the accompaniment of the hammers and saws of boys who were finishing their shop work.

The first thing done to alleviate these conditions was to separate the classes, the substitute teacher taking one group at a time to the yard for physical training, number games, etc. The classroom was used for scholastic and manual work. With the departure of Isaac, at least half an hour formerly devoted to his daily "fit" was saved for class instruction. The next step was to arrange with neighboring schools for the transfer of our mentally low-grade children to their schools, and the transfer of their mentally high-grade children to ours. Now the pupils made a better social group, and were better graded in their school work.

With the formation of a third ungraded class, another room was set aside so that three classes now used two rooms. One room was fitted as a shop, so that the hammering and sawing no longer interrupted the reading and arithmetic. A departmental schedule was put into effect with one group in the shop, another having school work, and the third in the yard for physical training and games. In this way it was possible to place a boy who had a special disability in reading, in a lower class for that subject and in a higher one for arithmetic.

With the organization of more ungraded classes, the great problem was where to put them, as the school was already overcrowded, many classes being on part time. This difficulty was obviated by the adoption of a departmental schedule and through the coöperation of the Boys' Club near by. On pages 141–2 appear the program of school activities carried on under this five-class organization, and a supplementary program for a single class organization.

The objection sometimes made to the departmental scheme is that it is hard for the children to adjust to three or more teachers during the day; but this is offset by the fact that each teacher, instead of being a "Jack of all trades and master of none," can perfect herself in her chosen subject by taking courses in allied branches. For example, while teaching the scholastic subjects, she can take college work in the teaching of reading, arithmetic, etc. The teacher of physical training can take work in games, corrective gymnastics, or folk dancing. The shop teacher can be taking work in caning, cobbling, basketry, and toy-making. This scheme makes each teacher more proficient in her own subject and more resourceful in understanding and building upon the interest of the children. To be a good ungraded teacher is not the work of a day nor a year, for there are many different subjects to be taught, and each child is a special problem in himself.

In a departmental schedule, where the teacher has the class but one and one-half hours during the day, both teacher and pupil feel that they must work at top speed to accomplish

PROGRAM[1]

FIVE-CLASS ORGANIZATION

DEPARTMENTAL SCHEDULE FOR FIVE UNGRADED CLASSES USING THREE ROOMS

IN ROOM		IN ROOM	BOYS' CLUB	BOYS' CLUB	IN ROOM
8.30–9.00	*English 1	Manual Work 2	Arith. 3	Opening Exercises 4, 5	
9.00–9.30	Arith. 1	Manual Work 2	Phys. Tr. 3	Music Rhythm 4, 5	
9.30–10.00	Nature S. 1	Manual Work 2	Games 3	Arith. 4	Reading, Dram., Word games 5
10.00–10.30	*English 2	Manual Work 1	†Bath 3	†Bath 4	10.00–10.10 Recess 5
10.30–11.00	Arith. 2	Manual Work 1	Music Rhythm 3	Phys. and Sense Tr.	10.10–10.30 Arith. 5
11.00–11.30	Nature S. 2	Manual Work 1	Current Events 3	Games	10.30–11.30 Games 5
12.30–1.00	English 3	Manual Work	Geog. Current Events 2	Geog. Current Events 1	Sense Training 5
1.00–1.30	Nature 3	Manual Work	Phys. Tr. 2	Phys. Tr. 1	1.00–1.20 Writing 5
1.30–2.00	*English 4	Manual Work	†Bath 2	†Bath 1	1.20–1.40 Phys. Tr. 5
2.00–2.30	Phonics 4	Manual Work	Music Rhythm	Music Rhythm 1	1.40–2.30 Industrial Tr. 5
Tuesday and Thursday					
9.30–10.00	English 2	Manual Work 1	9.00–9.45 Phys. Tr.		
10.00–10.30	Arith. 2	Manual Work 1	9.45–10.15 Bath		
10.30–11.30	Assembly 1	Assembly 2	Assembly 3		

* English includes spelling, writing, written composition.
† Clinic during bath period.
Class 5 has bath once a week.
Swimming Pool. Thursday 9.15–10.15 class 3; 1.30–2.30 classes 1, 2.

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[1] From "Organization of an Ungraded Class Center," by Martha A. Barney, in *Ungraded*, January, 1919. Page 103.

what has been planned. From an economic standpoint, there is a decided advantage, for one well-equipped shop is better than a bench or two in each room, together with a few tools. Each class has the use of tools and benches usually provided for three classes, and the period can be devoted by the entire class to shop work without fear of interrupting a reading or arithmetic lesson. The same is true of the physical training equipment.

PROGRAM[1]

SINGLE CLASS ORGANIZATION

PROGRAM FOR A SINGLE UNGRADED CLASS

GROUP A	GROUP B	GROUP C	GROUP D
9.00–9.15 Opening Exercises			
9.15–9.30 Morning Talk			
9.30–9.40 Spelling	Spelling	Quiet Work	Quiet Work
9.40–10.00 Language (W)	Language (W)	Teacher	Teacher
10.00–10.15 Reading	Reading	Language (W)	Language (W)
10.15–10.30 Recess			
10.30–11.00 Number	Number	Number	Quiet Work
11.00–11.20 Physical	Training		
11.20–11.40 Manual	Manual	Phonetics	Phonetics
11.40–12.00 Geography	Geography	Manual	Manual
1.00–1.05 Roll Call and Weather Observations			
1.05–1.25 Story on Nature Study or Dramatization			
1.25–1.30 Writing			
1.30–1.45 Marching — Singing			
1.45–2.00 Recess — Free Play			
2.00–2.50 * Manual Training			
2.50–3.00 House Cleaning — Closing Exercises			

* Bench, Clay, Painting, Sewing, Weaving, Basketry.

When the classes were three in number, the teachers of older boys in the district asked for the use of the Boys' Club on

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[1] From "Organization of an Ungraded Class Center," by Martha A. Barney, in *Ungraded*, January, 1919. Page 103.

Friday afternoon for a general "get together" meeting, at which each school stood ready with something for the program. This gave the teachers and pupils an opportunity to see the work of the other classes and promoted a desirable rivalry among them. The visits to the Club revealed the remarkable facilities such as the swimming pool, gymnasium, auditorium, and game rooms, which were used in the afternoon and evening by the members of the Club. A plan of coöperation was evolved by which the ungraded boys of Public School 64 were allowed to have their physical work in the Boys' Club instead of in the school yard, which was overcrowded and unequipped. Two classes were accommodated at the Club in the morning and two in the afternoon. In time, about half the ungraded work came to be carried on in the Boys' Club, the teachers and the boys spending about half the day there. The class had the use of the shower-baths daily, the swimming pool once a week, and access to one of the best equipped gymnasiums in the city, a library, and auditorium entertainments.

An evening club was formed, which met every Saturday night. The qualification for entrance was membership in an ungraded class. These boys were well known to the workers at the Club, and every advantage was given them for afternoon and evening work, such as being monitor in the games and check room. This not only helped the boys toward becoming self-supporting, but also kept them off the streets. Most of them were cared for at the Boys' Club Camp for a part of the summer, and many remained for the entire season. The connection has been a continued resource for the ungraded boys after they have left school and gone to work at the age of sixteen. The Boys' Club remains a refuge where a welcome awaits them, backed up by an intelligent appreciation of their peculiar problems.

ATTENDANCE INSTEAD OF TRUANCY

In the original ungraded class, with its thirty-two boys in a room equipped for sixteen, there were some advantages in a poor attendance, for when many were absent, two boys did not have to occupy one chair and the problem did not seem quite so hopeless. On the other hand, the boys who stayed away were being encouraged in habits of truancy, in lack of respect for law, and in spending their time on the street. The result was a truancy problem of no small proportions. As the ungraded department handles its own truancy cases, it was necessary to develop an effective home-made technique.

The method adopted was to appoint from the class assistant truant officers to help the teacher at noon-time to investigate the causes of absence in the morning; and to help in the afternoon or evening in the investigation of absences occurring in the afternoon session. This gave the boys a sense of responsibility toward the school, and at the same time encouraged their own attendance, for no one could be an assistant truant officer who was himself a truant. It was found that the former truants made the best officers, for they knew all the places where the truants "hung out." The work was so diligently pursued that one class had 100 per cent attendance during an entire term. It was of course an exceptional record; but, with improved conditions, truancy has become on the whole one of the minor problems of the ungraded department.

The history of Guiseppe Cifuni was not unlike that of many boys. He was eight years old and was on the roll of a regular class which he seldom attended. The truant officer always found the apartment where he lived closed, as both parents worked and Guiseppe roamed about the docks all day. During one of his sporadic and enforced visits to the school under the chaperonage of the truant officer, he was given a psychological test and recommended for the ungraded class. The struggle began all over again. Coöperation from the home was out of the question; the boy himself had to be habituated to coming to school. Sometimes the visiting teacher brought him in, violently protesting. More often he was brought by another ungraded boy who lived near him. Finally he began to turn up of his own accord, at almost any hour of the day. Yet he settled down at last and had an almost perfect attendance record for two successive years. There is nothing impersonal or formal in the ungraded department's way of handling absences. Once the boy is in the class he becomes interested, and this is where this department has resources which the regular grades lack. It is not obliged to try to win a boy without any regard for boy nature; it may and does try to arrange a program suitable to the mental capacity and actual interests of the pupils.

A MODIFIED CURRICULUM

To make the school more attractive than the streets is not extremely difficult, once the school can bend its pride to accept the task. One of the chief daily attractions of our ungraded department was an orchestra. The boys were allowed the use of the kindergarten room for music and rhythm. The problem of instruments was solved by making drum-sticks of dowel, eighteen inches long, pointed at one end, which were used upon drum-heads made by stretching cloth over a frame and shellacking it to make a smooth, stiff surface. Pieces of sandpaper tacked to blocks of wood, three inches by five inches, were rubbed together in time to the music. "Clappers" bought for five cents each took the place of "bones." Two tambourines, bells, zonophones, and a triangle, together with the piano, made enough noise to satisfy almost any boy.

The appeal was made on a low plane, but in teaching children we must take them from the place where we find them and lead them gradually to the place where they should and can go. Although the "orchestra" at first was merely noise which satisfied the boys, they gradually grew able to soften the tone and keep time to the music in various ways. The practice in rhythm gave every boy, no matter how low-grade mentally, an opportunity to do something, for a boy can ring the bells or use the sandpaper at almost any time and not spoil the performance, provided the time is kept by the drummers. The work improved each year so that the younger boys became capable of using the drums on the first beat while others used bells on the second, third, and fourth. The performers were promoted from one instrument to the next as they gained in proficiency, until they had mastered all. The present of a real drum enhanced the performance greatly, and when two brothers who played the violin and the cornet were admitted to the ungraded class, the boys felt that they were a real band. They added stunts that they had seen at the local vaudeville houses, such as ball-bouncing, hand-clapping, rope-jumping, and roller-skating in time to the music. It is not difficult to see that in these stunts, done separately and in couples, there was the opportunity for real training in physical coördination and sense development. In time, the teachers gradually substituted for the popular airs with which the children were familiar the simple melodies of classic compositions. Once they had become familiar with airs by MacDowell and Beethoven, they were able to render them with the same enjoyment they had previously derived from street tunes and monotonous jazz. The success of this experiment was a surprise to the teachers.

In arithmetic, teams were organized for number games which furnished drill in fundamentals, and graphs were drawn showing the progress of the teams. These graphs were posted on the bulletin board. Achievement tests were used to show the progress of individual pupils. The model store served for all phases of scholastic work, from "playing store" for the lower grades to taking inventories and making bills in the higher grades. Matches in arithmetic were arranged with regular classes of the school, for, although the ungraded boys were not able to compete in problem work, they were capable in memory and drill work. Usually, five were selected from each class, an ungraded and a regular class, the principal and assistant attending, thereby lending dignity to the occasion. You can readily picture how happy these boys were when they tied a 7B grade class, three of whose team were to be skipped to the 8B grade at the end of the term.

Although most of these ungraded boys were more than twelve years old, they could not read a third year book. As they strenuously objected to reading from a "baby book," they made their own readers from newspapers, which provided material more vital to them than "Bo-Peep and her Sheep." They made phonic and reading charts for the use of the first, second, and third grades, but no boy was allowed to print the charts unless he knew the letters and could read what he was printing. In this way, the most elementary reading lessons were given them without offense to their self-respect. For this consideration must always be remembered when dealing with these larger boys with backward minds.

Material was selected from the shop for reading, spelling, composition, and arithmetic. In this way the names of the tools were learned, descriptions for making models were written, and spelling became vital, for a boy had to know the name of a tool and how to spell it before he was allowed to use it. Fractions were not merely a page in the arithmetic book but something to use in shop work, the misuse of which caused serious difficulty in the work.

The well-equipped shops and the efficient shop teachers are an added attraction for these boys. In the ungraded classes, because of the small numbers and the fact that the boys might supply their own material, they are allowed to choose their own models. The choice was usually something that could be used at home. Five or six models were finished in a term. During the war, wool was supplied by the Red Cross for knitting sweaters, and the class enjoyed knitting as much as any girls' class. Their knitting needles were made from dowels. Toy-making also proved successful, the materials for this work being secured through the Junior Red Cross. Once a year a bazaar was held at the Boys' Club and with the money thus raised, new material not on the supply list was bought. Two looms for rug-weaving were purchased from the school fund. Chair caning was also popular, many orders for stools being secured each year. In appreciation of the kindness of workers at the Boys' Club, the chairs of the Club were caned, the Club furnishing the material. Brush-making was another activity in which the boys became proficient. The material was furnished by the Board of Education and the finished products went to the supply department for use in the public schools.

The Boys' Club afforded a place where dramatics were encouraged. The large stage — the floor of the gymnasium — gave an opportunity which the over-used auditorium of the school could not. The first work done was a Thanksgiving pageant in which every boy in the department had a part, even if it was no more than dressing up as an Indian. The next attempt was a minstrel show. Under the guidance of the teacher the boys wrote the play themselves, which served to motivate the work in reading and speech improvement. The jokes were culled from the newspaper and censored by the class with the help of the teacher. Popular songs were selected and some two-part singing was taught. Acrobatic stunts were included and the boys suddenly found the physical training class less irksome. The minstrel show was such a success that it was used as the basis of the graduation exercises of the school the following June. No doubt many people would consider the introduction of such trivial material into the serious atmosphere of the schoolroom as an unwarranted departure from the sacred purposes of education. As a matter of fact, the minstrel show stimulated more direct initiative and sustained effort on the part of the boys than we had thought them capable of.

One of the most profitable terms of the school centered around the circus which followed the minstrel show. It provided material for the entire term; all subjects were correlated with it. The drills and acrobatic stunts were prepared in the gymnasium periods. The songs and music for the band were studied in the music period. The stage properties were made in the shop during the shop period. The signs were made in the sign painting shop, and the costumes were loaned by the Boys' Club and others were made by the garment design shop.

A description of the circus may be of interest. It was introduced by a prologue, after which appeared two clowns carrying the big bass drum and followed by another clown carrying a sign announcing the show. Then came the ring master in his full dress suit. The brass band played as the freaks and performers marched across the stage in parade. The parade consisted of a giant, a dwarf, a headless wonder, the strong man, the wild man, the Japanese magician, the bearded lady, animal trainers from India, a stuffed bear, a trick elephant, tramps, clowns, and Jewish and negro comedians. Each of these appeared in a special stunt. The ring master gave a comical introduction for each one. Financially the circus was a great success. It provided funds to treat the nine ungraded classes to seats at Barnum and Bailey's Circus, it provided new instruments for the orchestra, and it gave money to the school fund.

The circus had a remarkable effect on the morale of the ungraded department. It had met with well-merited success. Certainly no one who sat in the audience would have suspected that the actors were boys with IQ's of only 50 to 70. The ring master was gifted with unusual good looks and a charming personality, traits which received the tribute that was their due on such an occasion. The ability of the boys to "get the laugh" in the right place showed an integrity of purpose and a coördination of effort which might easily have been lacking in a more pretentious piece of work. This was but one of a series of entertainments which led us to wonder whether the mimetic faculty which plays so large a part in every dramatic performance is not compatible with a much wider range of intelligence than is commonly supposed. Is the sympathetic personality which can get itself across the footlights conditioned on intelligence? From the Court Jester to Sir Henry Irving, the profession of the entertainer is not generally undervalued. In all of its forms, it can be reasonably sure of an economic reward. It is characteristic of the experimental spirit of the ungraded teachers that whatever ability a boy may possess, manual or histrionic, it is usually found out by some means, and receives encouragement and appreciation.

COÖPERATION WITH THE HOME

Much of the success of an ungraded class depends on coöperation with the home. Here the tact and skill of the visiting teacher are very much in demand. With these children more often than with others there are physical defects to be remedied. There is a natural resistance on the part of a family, especially if the other children have gone through school in the regular way, to having a boy in a special class. But when a hitherto difficult child settles into school for the first time in his life, and ceases to harass his parents with bad reports and frequent summons from the school, the family is usually reconciled. Sometimes this is not accomplished without many visits on the part of the visiting teacher, who must interpret this new kind of progress which the boy is making.

A legitimate concession was made to the feelings of these boys and their parents by changing the name of the ungraded classes for current use, although the official name was retained on the school register. The name "ungraded" was removed from the classroom doors and "Junior Shops" was substituted. It is by no means necessary, even in a complex public school organization, that concessions made to dull boys should be compensated for by stigmas and labels. So far as such things still persist, they are a survival of the old dunce-cap atrocity. A scientific attitude towards children will do much to eliminate all forms of mental torture from the schoolroom. For the teacher needs not only charity but science to perceive the futility of penalizing a child for failing in that which he absolutely cannot do. The teacher of a regular class who is really trained in psychology will be unlikely to threaten a lazy child with the "ungraded class," and thereby bring into disrepute the children of these classes. It is by learning the actual natures of dull children that we come to have the most charitable attitude toward them.

But the threat of the dunce-cap as a form of discipline dies harder than the threat of the birch-rod. In spite of the well-known attitude of the school toward the ungraded children, new teachers were prone to offend. The pride which the ungraded teachers took in their own classes has done more than anything else to counteract this depreciation of the status of their department. A zealous but inexperienced teacher came to the door of an ungraded classroom one morning escorting a young culprit who had been late for the fifth time. "This boy," she said in righteous indignation, "has been late four times. I told him if he came late again, I would put him in this class." And she waved him in. "Indeed," said the ungraded teacher with equal indignation, "you have brought him to the wrong place. Every boy in this room comes on time every day." And she pointed to a 100 per cent record on the blackboard. While the rebuff was hard on the young teacher, it was an absolute necessity from the point of view of protecting the self-respect of the sixteen boys in the classroom.

At Public School 64, we endeavored, in general, to adhere to the spirit and ideals of the ungraded department of the city. Our experiment had the coöperation and the confidence of the department. The distinctive features of the local work were limited to these: the coöperation with the Boys' Club, already described, which brought increased facilities and resources; the tendency to include a higher type of boy in the classes than in most schools; the establishment of observation ungraded classes for the younger children; and the initiation of classes for neurotic children, to be discussed in a later chapter.

THE BORDER LINE BOY

In many schools there is a tendency to regard the ungraded department as a place of punishment and to feel that it is an injustice to a well-behaved child to recommend him for admission. In fact, before psychological tests were introduced, boys were recommended on the basis of behavior rather than intelligence. For this reason, it was difficult to make these classes serve the type of boy who needed the work most. The attitude of the teacher towards a dull but good boy was to give him the benefit of the doubt by keeping him in a regular class. We, on the other hand, considered that giving a boy the benefit of the doubt often meant giving him the opportunity of getting a good education. The choice which we were sometimes obliged to make in border line cases usually fortified this point of view.

Peter Lutz had an IQ of 75, and so had a great many other boys. Peter's outstanding characteristic was that he felt compelled to act the fool on every occasion. He was an expert at making faces and giving silly answers. In short, he was a "cut-up" and a clown of the most annoying brand. With it all he had a streak of common sense that made the teachers hesitate to banish him. Finally, rather against the judgment of the teachers, the principal and psychologist decided to ask to have him put into the ungraded class. Without demonstrating any miraculous conversion, Peter gradually learned to exert himself seriously at tasks which he was able to accomplish. He was no longer obliged to compensate for his dullness by his outrageous capers. He had the kind of pride which would have obliged a brighter boy to stand at the head of his class; but since he had not the capacity for this, he had used whatever resources he had to command attention. Finding his milieu in a class of boys who were duller than he, this trait led him to be in time the brightest, most industrious, and most dependable member of his group. When too much was demanded of him, as occasionally happened, he fell back temporarily into his former mode of behavior. On leaving school, he was given a recommendation for a job by his teacher, who could conscientiously consent to do so. Many instances could be given of similar cases of boys who had formerly just scraped along at the bottom of their classes and who seemed to discover new and astonishing abilities in the atmosphere of the Junior Shops.

While it is true that education does not change the mental status of this type of boy, it is also true that the kind of education he receives may materially affect his social and economic status in after life. While his IQ is not improved by training, the place he finally comes to occupy in the world may be greatly altered thereby. Of two persons with an equal IQ, the one may make a far better place for himself in society than the other if his training has been based on his actual equipment and not on some hypothetical average. It should not, therefore, be necessary to guarantee that a child will not "be able to manage his affairs with ordinary prudence" (a frequent definition of mental deficiency) before placing him in a class where he may learn to do so. He is amenable to the formation of good habits while he is under its care, and if he is started out with well-established practices in regard to health, work, and play, there is a strong likelihood that they will last.

This is perhaps even more true of a child with a low IQ than with a high one. The former learns his moral lessons in a routine way and applies them literally. A more intelligent and imaginative youth has to work things out for himself, and if this gets him into difficulties, he can extricate himself by the use of his intelligence. The dull child accepts moral precepts without criticism and, therefore, the school should concentrate its efforts towards teaching him social habits which conform to the existing code. He is not qualified to become a pioneer in higher ethics; he has a better chance for a happy and serviceable life if he is well drilled in the simplest and most commonly needed ethical conventions. The more diversified his school experiences are, the more opportunities he has to build habits of social conformity which are to be the guide of his later life. An ingenious teacher, during the child's school course, can manufacture for him many typical situations which he is likely to meet in his wage-earning career, and prepare him to meet them in such a way that they do not arise as emergencies. For a limited intelligence is more apt to show itself in the failure to meet a novel situation than in any other way.

FINDING THE SLOW CHILD EARLY

When the entire school was classified by intelligence tests, the need for more ungraded classes for the younger children was strongly felt. No such classes had formerly existed. Under the old method of selection by recommendation of the teachers, it had been the rule that no child should be assigned to this department until he had spent at least three years in the regular grades. Frequently he had reached the age of 12 to 14 before he was sent, and the teacher was confronted by the task of reconstructing in two years the bad habits which were based on long years of continuous failure. The great majority of boys came to the ungraded class after they had spent five or six years in the grades acquiring habits of truancy, laziness, furtiveness, and devious compensation. Almost every boy entered the department under a cloud.

When it became possible to select the children on a scientific basis, it was no longer necessary to wait for the accumulated results of retardation to determine what they needed. The lowest group of first grade children by the psychological classification was taken over by the ungraded department as an observation ungraded class. In the same way, a corresponding group was organized for each succeeding grade. These children were not diagnosed as defective or anything else. They were merely classified as the least promising from the point of view of adjustment to school life and curriculum as it is. There is a certain number of children in every entering class of six-year-olds who strongly suggest, by personal traits and behavior, and by their family histories as well as by their psychological tests, that they are going to need extra time and extra help to fit into school life. The children who would under ordinary circumstances later be admitted to the ungraded class, will undoubtedly be included in this group. How many of the others will later be returned to the grade above is a question which depends very largely for its answer on the further question of whether the grade will develop a curriculum which will come half-way to meet them. It occasionally happened that a child responded so well to the sense-training and individual care given in the ungraded class that it seemed best to try him in a regular class. But as a matter of fact, very few of these children profit by being returned to the present academic grades. Unless some compromise can be worked out which will give the benefits of both the present academic curriculum and the present ungraded curriculum, they are likely to thrive best and make more actual progress in the more humanized environment of the ungraded class.

With the establishment of the observation ungraded classes, the department in Public School 64 became subdivided into two groups: four classes of older boys and five classes of younger ones. The make-up of the ungraded department according to the chronological ages of the children is shown in Table XX.

The shop equipment for the younger boys was a problem. The department had no equipment for children of this size. Only the regulation academic sittings of the old-fashioned prison type were available for six- and eight- and nine-year-olds. Fortunately the school shops were able to make the requisite equipment in smaller sizes according to the ungraded plan. Tables, benches, and chairs were constructed in the joinery department, and small stools, on which the children stood while they worked, enabled them to use the regular benches and do genuine work from the first with regulation tools. The making of this equipment by the older boys illustrates the kind of service which they commonly gave to the school in the way of repairs and upkeep. The idea of useful work was not imparted merely as a theory but as a practical, daily habit.

TABLE XX

SHOWING DISTRIBUTION BY CHRONOLOGICAL AGE OF 150 CHILDREN IN THE UNGRADED DEPARTMENT

Chronological Age	Number of Cases	Percentage
7 years	12	8.0
8 years	6	4.0
9 years	11	7.3
10 years	12	8.0
11 years	9	6.0
12 years	20	13.3
13 years	32	21.4
14 years	26	17.3
15 years	18	12.0
16 years	4	2.7
Total	150	100.0

There are many advantages in placing the children in observation ungraded classes at six or seven years of age. In the first place, they are saved from wasting time, and time most precious to the slow learner. In the second place, they enlist the sympathy and affection of the teachers of the department more readily as little children than as older ones. The deficiency of a six-year-old appears in the form of a babyish demeanor. This is in itself an appealing trait which naturally arouses the parental tenderness of a teacher. Later on, when the child's backwardness becomes more outstanding, there exists already a history of affection between them which helps to mitigate the teacher's impatience and displeasure. This applies, of course, only in a school where the ungraded teachers know the boys throughout their school career, as is the case in Public School 64, where the department is a school within a school, with an intimate and informal atmosphere of its own.

After all, the principal advantage of early assignment to ungraded classes is the protection of the child's disposition. At home, his backwardness has usually been tolerated and shielded, but as soon as he encounters the requirements and the competition of the first grade, his disposition begins to break. With every added failure, his feeling of inferiority is enhanced. How can he keep up courage or develop cheerful industry? His gradual loss of confidence and incentive renders him at last unable to do the work even up to his limited capacity. It is important to remember in this connection that self-confidence is not necessarily associated with high mental ability nor inferiority feelings with feeble-mindedness. These personal attitudes are founded less on actual ability than on the child's experience with his family and his school. The boy with a 75 IQ who is treated by his parent or teacher as if he were somebody is not so likely to suffer from morbid diffidence and discouragement as a boy of 125 IQ who is habitually snubbed by his elders. The boy with a low IQ who goes all the way through school and leaves it with a socialized friendly attitude towards others, carries within himself the greatest possible protection against danger. He has established habits of frictionless relationships which are the best social safeguard that can be given him.

Students of delinquency estimate that from 30 per cent to 50 per cent of the population of the prisons are mental defectives. This is enormously high by comparison with the proportion of mental defectives in the population at large. It has led many people to believe that mental defectiveness is in itself a cause of crime. But if this were the case, what light would it throw on the other two-thirds of the prison population? It is not the lack of intelligence which gets people into prison; it is their dispositions. The fact that so large a proportion of the mentally defective go to prison is evidence of how far the schools have failed in their task. The subnormal person is often malleable and educable. The constant nagging and punishment which are meted out to the stupid boy in the average school give him a kind of special training in resentment and antagonism. Later on, these unlovely qualities, the product of his education, wreck his industrial career. They lead him to hate the boss, quarrel with his fellows, and lose one job after another. If he reaches prison at twenty-four and is there diagnosed as mentally defective and emotionally unstable, the emphasis should be placed on the second feature of the diagnosis as the significant factor of his tragedy. After the history of conflict through which he has passed, it is legitimate to wonder whether mental defectiveness alone would ever have brought him to this pass.

The unrecognized defective is around us everywhere. There are numberless occupations on which civilization depends which may readily be performed by a person with a 50 to 75 IQ. The boy or girl who goes out into the world with an unspoiled disposition and a mental age of only 8 to 12 years may present a very good front before his neighbors and fellow-workers, who do not inquire whether he left off at school with long division or analytical geometry. He can do many things along with the cleverest. Anybody who is trying to learn to run a motor car may encourage himself with the reflection that a moron can do the same. There are brilliant women who are proud that they can knit, and would probably be surprised to know that this is a normal accomplishment for a seven-year-old mentality.

It is true that the low-grade intelligence which is engaged in running a motor car or knitting or any of their numerous equivalents does not make the same general impression as the high-grade intelligence similarly employed. There is an unconscious recognition in the mind of the public of the arrested ability of the moron worker. "I have such a nice little grocer's boy," says a lady, expatiating on his faithfulness and regularity, which she rewards with occasional presents. "A nice little seamstress" is very popular with a certain family, who do not stop to reflect that the quality of dependence which makes them all fond of her is not a truly adult quality. The use of such phrases indicates a certain awareness of the diminutive development of these people. But so long as the friendly feeling prevails, the person so referred to does not lose his job and become dependent, although his IQ may be below the median IQ of the population of Sing Sing.

This is what the ungraded teachers have come to realize and why they answer "no" when people ask them whether they do not find their work depressing. After all, the education of dispositions is perhaps a more subtle and interesting occupation than giving information to bright or average children who would probably get it anyway.

CHAPTER VIII

The Dull Normal Boy

The classification of children by psychological tests does not, as many people seem to think, take away from them their infinite variety and stamp them with a tiresome uniformity. When the government tests the army and publishes the results, it does no injustice to the individual. The Federal Census reports tell us certain facts about every person in the country — age, sex, occupation, marital status, and so forth — but we do not assume that this is all that could be told about him. In the same way, the psychological test ascertains the intelligence rating of a group of individuals without assuming that this is all that might be told about the members of the group.

It is not the function of the psychological classification, any more than of the census classification, to reduce human beings to the dull facsimile of a swarm of bees, a flock of sheep, a shoal of fish. If anyone hears of classifying school children by intelligence tests, he should not envisage them therefore as a crowd of orphans in blue-checked gingham, forlorn imitations of each other. On the contrary, if a group of school children are said to have a common IQ of 85, it should be remembered that this is really the only trait in which they are even approximately alike. It happens that in the business of education, this kind of homogeneity has primary importance because it so largely determines the child's reaction to being taught. But the experienced psychologist who discovers that a child has an IQ of 90 does not believe that he has exhausted the subject. Indeed, he is more aware of the uncharted and untested influences which remain after the IQ has been estimated than the well-meaning but unscientific person who believes that academic education of the kind now current is a remedy for every human limitation.

As soon as you begin to put things together by reason of a certain similarity between them, their dissimilarities begin to stand out. A button here and a button there are just buttons; gathered together in a button box, their various differences are instantly noted, large and small, blue and brown, round and flat. If you take a box full of buttons and begin to sort them by sizes, the varieties of color begin to appear; sorted by color, they refuse to look alike in regard to shape. The discovery of a similarity is always an aid in the process of differentiation. The person who is not impressed with the dissimilarities of similar things is the person who is at a distance and has no intimate contact with them, who sees them only through the newspaper column, the printed page, or common talk. To people remote from the material, the one effect of classification seems to be uniformity, because it offers a single trait whereby the imagination, working at a distance, may hold the whole group in mind. But the teacher who stands before a class of children with similar IQ's, or the psychologist who is in daily contact with them, is less conscious of their common traits than of their individual differences. The individualizing of the child in the teacher's mind is facilitated by this grouping. Once she perceives the quality they share, she may treat them differently according to the qualities they do not share. Formal academic education builds on what people have in common; real education should take account of the individual's possible contribution through personal tendencies and endowments, and should seek to make this potential contribution a real one for every individual.

While the mental capacity of a person does more or less to determine his place in school or sphere in life, it does not determine his success within that sphere. But this is the kind of success on which personal happiness chiefly depends and which practically every grade of intelligence may hopefully pursue. Psychological classification does not encourage the idea that only the best intelligence is worth while and the rest nowhere; on the contrary, it leads us to value all kinds and grades of intelligence and to try to understand how to develop them towards a life of personal effectiveness and social usefulness.

SIZE OF DULL NORMAL GROUP

The group of children whose IQ's are between 75 and 85 and whose potential mental ages between 12 and 14 represents for several reasons the most exigent problem in the public schools. Wherever psychological surveys have been made, the size of this group has shown a tendency to disturb the normal curve of intelligence. In the army, it assumed surprising proportions. "It appears," says the report, "that the intelligence of the principal sample of the white draft, when transmitted from Alpha and Beta examinations in terms of mental age, is about 13 years (13.08). Here we have a measure of the average intelligence of nearly 100,000 white recruits." Commenting further on this group, the army report says, "We know now, approximately, from clinical experience, the capacity and mental ability of a man of 13 years. We have never heretofore supposed that the mental ability of this man was the average of the country or anywhere near it."[1] In other words, we have never been willing to admit the prevalence of this grade of intelligence among the general population. We have preferred to believe that Socratic and Jeffersonian intellects were at least embryonic in everybody. It would seem as if the time had come to cease exclaiming with surprise over the outstanding proportion of this group and searching for special reasons for the bulging of the intelligence curve just where the dull normal folk come in.

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[1] *Psychological Examining in the United States Army.* Page 789.

A more practical alternative would be to admit that there are a great number of these people and that they form no negligible problem from the social and educational point of view. In our school, about one-fifth of the children were classified within the dull normal group. For practical purposes, however, the number should be considered a much larger one, perhaps one-fourth. The psychological line of demarcation is not absolute; you do not keep a boy out of high school because he has an IQ of 89, nor refuse to classify another as dull normal because his IQ is 86 instead of 85. Such literal distinctions would be absurd. There were overlapping IQ's in all our groups in Public School 64. A child is not saved by intelligence alone; all his attributes of character have an influence on the issue. Yet it is a doubtful kindness to push boys upward into academic classes where they are destined to be always at the tail-end. Children with IQ's between 85 and 90 seldom do well in the high school courses which prepare for college, and many of them should be included in any public school program which is adapted to the 75 to 85 IQ group. This does not mean that they should have no secondary education, but that the present high school fails to provide a congenial program for them.

Such a program does not exist even in the elementary school. What actually happens in all public schools, as every educator conversant with the situation knows, is that about one-third of the children sit around while the other two-thirds are being taught. This recognition is not limited to the educator; it is a matter of common knowledge, a subject to be treated with tolerant mirth. A recent cartoon in the New York *World* showed two little boys engaged in a gutter conversation about the approach of school days. "Ain't you goin' to school this year?" said one. "No," said the other, "I didn't learn anything last year." The joke has its serious implications for the educator.

The number of little boys who might say this with literal truth is startlingly large. They are generally children whose IQ's are anywhere between 75 and 90. If we were to analyze 1000 school children who are social and educational misfits, the great majority would certainly be found to belong to this group. The truants, the hold-overs, the disciplinary cases are preponderantly of the dull normal type. They are a symptom of protest against our inadequate school organization. Under our present arrangements, the dull normal child misses out all along the line. He is denied the opportunities which are provided for the ungraded child and he cannot profit by those which directly prepare for the high school course. Even the trade school becomes practically inaccessible for him, owing to his belated graduation from the grammar grades and the selective policy of the trade school, which can always choose boys with good marks who cannot afford a high school course. The dull normal boy is qualified to do good work and a great variety of useful and dignified occupations are open to him; but the school insists on preparing him to be a lawyer, or doctor, or banker, or pedagogue. He sits on in classes conducted on this theory as a child sits through a dreary sermon. If he suffers from boredom, says the school authority, it is his "fault." The schools are made for children who can "take an education" and the standards must be kept up, etc., etc.

During the years of the experiment in our school, an effort was made to come to the rescue of these children in various empirical ways. No other group seemed to be so much in need of imaginative and constructive guidance. The existence of the opportunity classes within the system was seen to be an entering wedge on their behalf. These classes were specifically organized to enable over-age boys to overcome their retardation. The usual plan had been to group the slow normal together during their last years in school. By analogy with the observation-ungraded classes, we established opportunity classes for the younger boys and continued this process until one opportunity class was formed for each grade all the way up and down.

These were permitted to have a smaller register than the regular classes, but the further adaptation of the opportunity classes remained behindhand. There was no special equipment for them and there were no specially trained teachers. An organized constructive plan was impossible. Experiments with the curriculum had to be left with the individual teacher, with the result that here and there some progress was made with certain classes. The animal-room, the window-gardens, and the shops were at least available, and functioned well in the hands of creative teachers who could exploit their possibilities.

AN EXPERIMENT WITH ATTENDANCE

With one class of 5B grade boys, a more intensive attempt was made. The class was comparatively small with only twenty-five on the register (later increased to thirty), because it was known to contain so many difficult boys and so many stubborn cases of truancy, over-age, and other disciplinary problems. The boys ranged in age from thirteen to fifteen years. The older members remained in school until sixteen, because the compulsory school law would not permit them to go to work before that age unless they had completed at least the 6B grade. The teacher who was placed in charge was a young man of good personality and adequate technique with a regular class. While he was liked by the boys and did very well considering the group under his care, truancy continued to be rife among them, and there were constant complaints against his pupils for infractions of school discipline. The parents of these big boys could give little or no assistance.

We determined to see if it was possible to interest this blasé group in school. It should be noted that the course of study did not provide shop work for fifth year classes. Regardless of the curriculum, we asked the shop teacher to provide an hour each day for the instruction of this experimental class. At first the boys were not interested because they had had no training to do the jobs they would have liked to do. By degrees they acquired skill in the use of material and tools and learned the magic feel of success. By the middle of the term, all of them were intensely interested in the shop work and had developed a more active spirit of work in every direction. They attacked the formal subjects of the curriculum. At the end of the term, the tables, chairs, and willow-work they had produced were among the best in the shop's exhibit. The manual training department no longer condescended to accept these boys, but looked forward with assured success to their second term of work.

The other innovation was the introduction of a swimming period once a week. Here again the Boys' Club came to the rescue with the provision of a swimming pool and a skillful teacher. Because the pupils were interested in learning to swim, they did not take less interest, but more, in the arithmetic period. Too often the guardians of children think that this or that interest "takes the child's mind off his lessons." It is important to discriminate in this respect and to encourage every normal boyish interest which leads to the acquisition of skill. When a child eats the butter off his bread, he is not deprived of the butter, which he needs, but is taught to "bite through" and eat the bread also. But too many of our educational processes insist on the child's learning to like dry bread, and too often the school goes about its work in a spirit of foolish pride, which refuses to compromise with childish interests and spirits. It then puts all the responsibility for failure where it least belongs — on the unsuccessful child.

The change which came over the spirit of this group of boys was little short of remarkable, and it was all due to the fact that they were given something to do which they liked and that they had found something that they could do well. The problems of attendance and discipline grew fewer and fewer until, before the year was over, these no longer existed. Table XXI shows the record of attendance of the members of the class for four successive terms. The same teacher was in charge during the four terms, but it was not until the end of the second term that the adjustment of curriculum was made. The marked improvement in attendance is shown by the reduction of total absences from 573½ days in the second term, to 320½ in the third term, and 182½ in the fourth term.

Everywhere the dull normal boy is the despair of the teachers, supervisors, and parents. Only today we read in the newspapers of the alarming conditions in New York City, and the inadequate facilities for dealing with the truant and other delinquency cases. This state of affairs must continue to exist so long as we fail to recognize the true cause. In the best parental and disciplinary schools the boys are given a kind of curriculum which approximates an adjustment to their abilities. If the same modification of curriculum had been provided for the same boys while they were still in the middle grades of the school — or preferably, even earlier —

TABLE XXI

RECORD OF ATTENDANCE OF OPPORTUNITY CLASS GRADES 5A TO 6B FOR FOUR SUCCESSIVE TERMS

MEMBERS OF CLASS	IQ's	DAYS ABSENT			
		1/31/19–6/27/19	6/27/19–1/29/19	1/29/19–6/30/20	6/30/20–1/31/21
J. A. . . .	75	$26\frac{1}{2}$	$16\frac{6}{2}$	$41\frac{15}{2}$	$11\frac{3}{2}$
A. B. . . .	80	$57\frac{6}{2}$	82	Sick	0
F. C. . . .	—*	No past record. Immigrant from Italy.			0
M. C. . .	90	$37\frac{8}{2}$	36	$16\frac{9}{2}$	0
A. C. . . .	63 †	3	3	$1\frac{1}{2}$	0
F. D. . . .	87	$\frac{2}{2}$	31	$8\frac{2}{2}$	$3\frac{3}{2}$
H. D. . . .	78	34	$12\frac{4}{2}$	$10\frac{2}{2}$	$10\frac{1}{2}$
G. G. . . .	77	$11\frac{3}{2}$	$19\frac{1}{2}$	$4\frac{9}{2}$	7
G. L. . . .	88	$18\frac{5}{2}$	$33\frac{9}{2}$	$30\frac{1}{2}$	$12\frac{1}{2}$
T. L. . . .	—*	No past record. Immigrant from Italy			12
A. P. . . .	78	$57\frac{3}{2}$	$80\frac{3}{2}$	$37\frac{10}{2}$	$30\frac{2}{2}$
F. P. . . .	81	$24\frac{10}{2}$	$15\frac{4}{2}$	$8\frac{2}{2}$	$6\frac{1}{2}$
E. P. . . .	—*	No past record. Immigrant from Italy.			$8\frac{3}{2}$
G. P. . . .	67 †	$27\frac{9}{2}$	$29\frac{2}{2}$	$14\frac{1}{2}$	$7\frac{5}{2}$
D. S. . . .	—*	No past record. Immigrant from Russia.			$7\frac{1}{2}$
P. T.	75	13	$5\frac{5}{2}$	5	5
P. W. . . .	86	$12\frac{2}{2}$	$11\frac{1}{2}$	2	$21\frac{2}{2}$ (sick)
H. Z. . . .	90	$31\frac{2}{2}$	$\frac{10}{2}$	$10\frac{6}{2}$	$7\frac{3}{2}$
M. S. . . .	—*	No past record. Immigrant from Poland.			$5\frac{2}{2}$
B. G. . . .	90	No past record. Immigrant from Poland.			$5\frac{2}{2}$
E. P. . . .	—*	No past record. Immigrant from Russia.			5
G. B.	—*	No past record. Immigrant from Armenia.			0
J. D. . . .	83	$43\frac{1}{2}$	$9\frac{8}{2}$	$4\frac{4}{2}$	$\frac{1}{2}$
I. A. . . .	85	$5\frac{1}{2}$	$10\frac{10}{2}$	$8\frac{3}{2}$	$2\frac{3}{2}$
A. M. . . .	77	$\frac{5}{2}$	0	$2\frac{6}{2}$	2
P. L. . . .	76	$5\frac{4}{2}$	$51\frac{1}{2}$	$37\frac{20}{2}$	1
J. B. . . .	81	$4\frac{4}{2}$	$26\frac{7}{2}$	28	0
J. L. . . .	75	$6\frac{1}{2}$	$8\frac{4}{2}$	$7\frac{6}{2}$	0
Total . . .		$446\frac{1}{2}$	$573\frac{1}{2}$	$320\frac{1}{2}$	$182\frac{1}{2}$

* IQ's are not given for immigrant boys who had been in the school only one term.

† Boys waiting for a vacancy in ungraded class.

the necessity for the punitive school might never have arisen. When the schools decide to provide, as they very well can, the conditions and activities which will hold these boys, it will not be necessary in so many instances to take them from their homes and confine them in institutional environments, which we then strive in vain to render educational and home-like.

The class experiment just described was but a demonstration of what might be done for boys of this type. It was but a scanty handful who benefited by the plan when compared with the group of boys in the school who needed similar treatment and more of it. So cognizant were we, however, of the specific social dangers which confront all ill-adjusted schoolboys, that we made every possible effort to treat each one as an individual case. The visiting teacher is the most valuable aid which the school has developed for handling these difficult children, and there is a tendency in the school which is not psychologically orientated about its material to concentrate her effort too exclusively on this type of problem.

Billie Jackson was a "question mark" pupil from the first grade. In his home the visiting teacher learned that Billie's father "had not had much schooling and did not like school. He never could learn anything there and neither could Billie." It was true; Billie was intensely bored by school books and much preferred to spend his time lying on the iron grating above the subway and watching the trains pass below, and in similar pursuits. The complacent ignorance of his parents did not help his school attendance. He became an incorrigible truant. One day he casually appropriated a watch which did not belong to him. Against this accumulation of symptoms, what was to be done?

Unfortunately, by no acceptable standard test, could Billie be called a mental defective. His IQ was 88. If he could have been put in the ungraded department, his problem would have been helped. It was indeed a case for desperate remedies, if we could think of any. Billie developed a fondness for one particular teacher who had the faculty of keeping up his attendance whenever he was in her room. The teacher happened to be promoted with her grade from time to time, so that Billie could be returned to her keeping now and then, without entirely disregarding his grade-progress through school. Whenever his truancy grew worse, he was re-consigned to Miss X and the habit would be abated. This treatment may have been empirical and unorthodox, but is not anything better than a fanatical law enforcement which makes this type of boy into a social outcast before he has reached his teens? We thought that it was.

Bennie Eichenbaum, IQ 88, was by no means a neglected boy. His first appearance in the school was at the age of eleven and in the fifth grade. His father had just made a second marriage and brought Bennie home from the Hebrew Orphan Asylum. A well-intentioned stepmother shared in the ambitious plans which Bennie's father had laid out for him. The boy always came to the school extremely well dressed in brown corduroy suits and with longish hair; for Bennie's father had determined that he was to be a violinist and insisted that he should dress the part. The boy objected to the clothes, since they caused the other boys to tease him; and he disliked the idea of being a violinist. When his father insisted on his going to the public library to take out a book, Bennie lost the book and his father had to pay for it. Mr. Eichenbaum came to school frequently to make anxious inquiries about Bennie's progress, but Bennie showed no interest in his lessons. His father consoled himself by constantly singing the praises of Bennie's brother, who was boarding with a family in New Jersey and was making such a fine record for himself in every way that his father forbore to bring him home. The legend of the other boy's superiority was constantly kept going in the family circle, in the hope that it might stimulate greater effort on Bennie's part. Naturally, it increased the boy's discouragement.

His reaction to all this was to take refuge in a stupid passivity in the presence of his elders. He had two absorbing interests: the wish to possess a bicycle (instead of a violin!) and going to the movies. His father refused to allow him to have a bicycle for fear he might be run over in the street. He reveled in the movies, however, for which an aunt secretly gave him money. This aunt, to whom Bennie always referred dramatically as his "dead mother's sister," fancied that the boy was ill-used by his stepmother and spoiled him with misplaced sympathy. He began to indulge in romantic adventures which led to truancy and vagabondage. With another boy, he undertook to enact a hanging scene in a cellar; but he became frightened and ran away without cutting down the victim. The boy was rescued just in time, and Bennie's reputation as a desperado was greatly enhanced. He had taken to staying out overnight and, from this beginning, he continued to wander farther and farther afield. One morning his distracted stepmother rushed into the school bearing the evidence of his latest crime wrapped up in a Yiddish newspaper. It was a small bank which Bennie had forced open. He had taken his savings, amounting to seven or eight dollars, and disappeared.

Fortunately Bennie's parents, who had started out with the idea of curing him by invoking the law and the courts, had formed the habit of bringing his offenses to the school instead. The visiting teacher was repeatedly appealed to: "You helped me with that boy before. *Now*, tell me, what shall I do?" When suggestions were made to the father that some of his methods only made bad matters worse, he tried conscientiously to change them. The boy, who admired and feared his father extravagantly, would have liked to please him; but the standard of the ambitious parents had been placed too high for him. The school requirements were always just beyond his reach. His failure to graduate from the 8B class was a disaster which sent the visiting teacher posthaste to the boy's father to break the news to him and persuade him not to "kill" the culprit.

There was no special disability in Bennie's case. But academic subjects had no attraction for him; all that the school and a well-meaning home could do to arouse his interest in lessons left him apathetic and furtively recalcitrant. If he had been given bicycle and shop and swimming lessons instead of violin and grammar lessons and library books, he might have become a wide-awake schoolboy. Instead, he hovered constantly on the edge of juvenile delinquency, and it was only the work of the visiting teacher which kept him from becoming a court case in early childhood.

WHAT SHALL BE DONE FOR THE DULL NORMAL BOY

The distressing problem presented by children who cannot cope successfully with the regular academic requirements and who are, nevertheless, not mental defectives, is a daily experience in every school. Evidence of this came to us in the form of frequent requests to receive big boys of thirteen or fourteen who were still obliged to go to school, although they had been eliminated from one school after another. A number of such boys were enrolled and allowed to do shop work, which they considered manly and which reconciled them to the rest of the curriculum. Any school which will make an active effort to help these boys will find no dearth of them knocking at its doors. Some of those who came to our school lived in the farthest parts of the city, and traveled long distances daily on the subway. One of the boys became very able in electric-wiring and supervised the younger boys in work which was done in the school offices. Another built a gasoline engine from the foundation up — a piece of work of which the school was rightfully proud and which was a more than creditable achievement for any fifteen-year-old boy.

This boy was excused from all other school work and allowed to work in the machine shop exclusively. He came to be an assistant to the teacher, and his engine was an object of admiration to hundreds of boys who passed through this shop each week. This last year of school meant everything to a boy who had hated it always. We had had to compromise with the requirements, but we felt that the boy had been rescued.

Not children only have heredity; education also has heredity. The persistence of characteristics is extraordinary in both cases. For the last century at least, a single uniform academic course of study has been uncritically accepted as suitable for all children of the elementary grades. Nothing has hindered the progress of education more than this erroneous view. The aristocratic education once developed in the palæstra and the monastery and the English public school for the upper layers of intelligence, has been regarded as the one possible basis of school work. Compulsory education was never thought to be inconsistent with this idea. The public school could think of no other way than to dilute the scholastic system more and more and filter the ever-thinning mixture on down through the elementary grades. As there was no scientific knowledge of the development of children before and during their teens, our educators took the philosophy of Aristotle for an ideal and thinned it down until they produced a dose that the average six-year-old could bear. It still remains to be proved that even the normal child of this age profits more by the mild dose than he would by real food with cell-building properties.

The plight of the pupil below the average in intelligence is cumulative. He can tolerate a great deal, like the young child who sits still in church with his elders while the sermon goes on over his head. But the endurance which goes on in the schoolroom day by day involves a far greater strain, although the material is not quite so remote from perception. By the time he reaches the middle and upper grades he is in revolt, or apathetic, or mentally ill. The grammar grades can do nothing for him; the school can only go on with its program of feeding sugar to diabetics. In most occupations, people take account of the material with which they are working, and modify their methods to suit its conditions. The housewife boils her jam a longer or shorter period of time, according to whether the berries are wet or dry. If the jam turns out badly once, no trouble is too much to take to avoid the same mistake again. Only in school do we insist on running children through on the same theoretical schedule and by the same traditional method. Then when they turn out badly, we start all over again with the next batch with the procedure absolutely unchanged.

We are not forgetful of the matter of social approval, to which the child is and should be sensitive. While he is entitled to receive the traditional course of study, he also has a right to be trained according to his personal endowment. After all, we cannot develop and build without regard to the native capacities and abilities of children. This general principle has always been accepted, but not until recently have we come to realize the wide range of individual differences — mental, physical, and emotional — which exist among children. To adjust to these conditions does not require the complete abandonment of all the traditional values of the schoolroom.

The boy wants to have history, and civics, and science because all the other boys in his street have these studies. "What, don't you have history in your class? We've had history three years." This is not the sort of thing that one boy likes to hear from another, and against which the school should seek to protect him. As a matter of fact, the dull normal child can be taught much of the conventional subjects if he is taught in the untraditional, or ungraded way. Science includes much practical matter extremely attractive to him. It is one thing to teach him by demonstrating the inside workings of a Ford engine but quite another to teach him the inside workings of the solar system. Yet both lessons may be justifiably listed as science, and the public school is confronted by the necessity of regarding them as equally important. Usually the school is far more willing to buy a uranosphere to show the movement of the heavenly bodies than to purchase a Ford engine to interest the boys, although all gradations of IQ's are fascinated by the latter.

While the dull normal child does not generalize easily, this does not mean that he cannot generalize at all. It has been fairly well established by psychological science that the ability to understand abstract principles begins with the twelve-year-old intelligence. The dull normal child goes beyond this point in his development, but reaches it later. He has not the same facility to learn through symbols and from the printed page. Once the school has condescended to teach him by experience, he can be given a genuine understanding of all that he is supposed to learn. A project, like that, for instance, of running a lunch-room, can be made to motivate the work of the standard curriculum throughout the year. Geography, arithmetic, and English composition take on a new aspect for the 7A grade boy when they are a part of running a little business or some other boyish project equally concrete. If, however, the school has no equipment and no imagination to provide these concrete projects, there will surely be truants, delinquents, and social problems of all sorts to be adjusted outside the school. This is why it may be said with perfect truth that our schools *make* children bad.

The ancient reasons for truancy were the swimming-hole and the fishing-pond. The modern city has but slightly altered these attractions; pigeon-flying becomes the competitor of arithmetic for the boys' interest. It is the wise school which takes stock of the errant pupils' habits and diversions. At Public School 64, we instituted a pigeon-fly in the animal-room. The breeding of carrier-pigeons was an enterprise which outranked the ordinary pigeon brood of the tenement housetops. There even came a day when the school pigeons were carried in a patriotic parade and released in front of the public library to find their way back to their home. The thrill of the event was not felt alone by the boys' class, which welcomed them back in the animal-room the next morning, but by the whole school as well.

If it comes about that the boys are playing truant to go a-fishing, then the school might do worse than to set up a fishpond alongside of the unabridged dictionary. As we have already said, truancy was not a desperate problem in our school. But whenever we found a truant on our hands, and these appeared most frequently among the dull normal group, we attacked the problem individually and pragmatically.

THE IMPORTANCE OF THE TEACHER

The dull over-age boy is so frequently a center of disciplinary problems, that there is a tendency to place him under a man teacher. The common assumption is that these boys need a strong arm, an iron fist. In this connection, it should be remembered that the overgrown, unsuccessful schoolboy is almost invariably on extremely bad terms with his father. This probably means that coercive discipline is not new to him. The school has doubtless increased his familiarity with firm methods, and strengthened his resistance and defenses, whatever these may be. Much of this coercion may have been exerted by parent and school in an attempt to force the boy to do things actually beyond his capacity. In such cases, a continuance of the method is obviously worse than futile. A severe man as teacher may mean, to the rebellious boy, just another father to be resisted.

The dull normal boy is very likely to linger in the elementary school until his beard has begun to grow. In a short time, he will go forth to work. He has before him, probably, a lifetime of adjustment to one "boss" or another, for his abilities are not commensurate with a career of independent and self-directing endeavor. It is highly important that during his last years in school he should not build up quarrelsome and recalcitrant habits of relationship with his teacher, for later he is likely to carry over this attitude to his job. A man teacher whom he can admire for his athletic prowess or skill in shop work has the best influences on him both then and later. Sheer authority is a poor thing to invoke; tact and Salvation Army methods are usually worth more than regimental discipline.

The boy who is at odds with his father, on the other hand, often has his mother on his side. There were women teachers in our school, middle-aged and maternal, who had excellent success in keeping these boys busy and interested. Children should have, of course, both men and women teachers, and should be prevented by every possible means from forming habits of enmity towards their school teachers of both sexes.

For all that we have said about the dull normal boy shows that this is his greatest danger — that he shall learn, in the words of a well-known prison expert, "to fear and hate his teacher because she does not have the same smile for him as for the boy who knows his lesson."[1]

Much of this kind of boyish unhappiness, which leads to lawlessness, can be prevented if the teacher knows more about the actual capacities of the boy, and in addition realizes that no child can turn out to be a moral success if he is made to feel himself a mental failure at every stage of his school career.

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[1] B. Ogden Chisolm.

CHAPTER IX

THE NEUROTIC CHILD

Perhaps the most distinctive aspect of the school experiment was the formation of special classes for neurotic children. Had we been deterred by the difficulty of the questions which challenged us in regard to these elusive and baffling individuals, we should not even yet have reached the point of making a beginning. Such questions as, *What are neurotic children? How do you detect them?* and, *What can you do for them?* can so far only be answered on an empirical basis.

We had, to encourage us, the precedent of the feeble-minded, who had been recognized, segregated, and educated for many years before any adequate objective method of diagnosis was invented. We knew that the neurotic adult did not become so overnight, but as the result of a warped development beginning during childhood. We also knew that neurotic adults are unhappy themselves and a source of unhappiness to others; that they have a tendency to become dependents if not delinquents; and that they are a source of emotional as well as economic waste. It scarcely seems necessary to apologize for an honest effort to prevent them, nor yet for methods used, so far as they were vindicated by results.

We do not minimize the value of the ambulance and fire-engine because they serve only a small percentage of the population. In the same way, the seriousness of the plight of these children must not be underestimated because their proportion is small. The exigency of the problem faced by the educator in connection with these children is such that he cannot afford to take a neutral attitude while waiting for scientific research to produce adequate objective tests for the neurotic person. Our own attempts to help them we consider belated rather than premature.

WHAT IS A NEUROTIC CHILD

Although we have not undertaken to formulate an academic definition of the neurotic child, the school was acutely conscious of his presence. For practical purposes we have described these as children who, for some reason other than intelligence, do not get on in the group to which they belong by reason of their intellectual endowment. Gradually, it became apparent that there was something common in the behavior of these very dissimilar individuals, which caused us to regard them as a group. Every school teacher is puzzled by the occasional child who is always out of focus in his class, who is persistently too far in the foreground or too far in the background. The background or "mousie" type of child is frequently overlooked in schools because, while he is young and often later in life, he alone is the sufferer. Yet this quiet, withdrawing youngster, who connects very little with his more boisterous playfellows, may be especially in need of understanding treatment. The foreground child who is a "pest" is frequently allowed to strengthen his undesirable habits during his first years in school because the teacher is too proud to complain of a seven- or eight-year-old pupil. She feels that, unmanageable as he is, she must somehow manage him; but any first-aid method that she may happen to devise to keep the peace is not always either therapeutic or educational.

There is a growing recognition in the schools of the fact that a child who is constantly in conflict with his teachers is in need of treatment rather than of punishment. Dr. Constance Long, medical officer of the London County Council Schools, says, "The child whose hand is persistently against his teacher's is so as a result of neurosis, or fear, or misunderstanding. . . . Teachers will have to become wise enough to realize that there is a psychic conflict at the back of persistent naughtiness." [1] Likewise, teachers will have to realize that the child who fails to be troublesome because he is persistently silent and inaccessible is probably also the victim of a psychic conflict. The child who is only "seen and not heard," who only "speaks when he is spoken to" and often not even then, is not in a healthy mental condition. His malady needs to be recognized and ameliorated, for such extreme docility, however it may be idealized by the proverbs, is no more desirable from an educational point of view than the incorrigible naughtiness of his brother.

Neurotic children, then, may manifest very different propensities, having almost opposite habits of behavior, perhaps, but having this in common — they overdo their dispositional tendencies. The children in the neurotic class were described by their teacher as predominantly loquacious, pugnacious, super-sensitive, self-conscious, excitable, taciturn, stubborn, suspicious. All these traits are found in other children of school age, but in the highly emotional type they are much exaggerated. The children in this class show a great lack of confidence in the performance of their work. It is very difficult for them to adjust themselves to any new situation no matter how slight the change may be. Their powers of concentration are limited, which is probably due to their high-strung emotional state. The neurotic child is constantly and unconsciously pleading for love and attention, very often using illegitimate means to obtain his ends. He is retarded in his emotional development as the feeble-minded child is retarded in his intellectual development. The child who goes wrong, according to H. H. Goddard, is likely to belong to one of these types: he does so either because he does not know any better or because he cannot help it. The child whom we call neurotic is the child who cannot help it.

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[1] Long, Constance, M.D. "Fear and Fantasy in the Child and the Authority Complex," from *Proceedings of the International Conference of Women Physicians*. Volume III, page 138.

A satisfactory definition of neurosis, as well as objective tests for the condition, still remains to be achieved. Whatever the origin may be, the neurotic tendencies of a child usually appear in his family relationships, and are continued onward through school and later life in a progressive series of inadequate social adjustments. To help the child who has trouble with his social relationships is surely as necessary as to aid him with his multiplication tables.

We did not try to distinguish between the neurotic child and the psychopathic child in making up the class. Both of them are given to similar excesses of behavior, and from the school point of view, present similar problems. The psychopathic child can be helped and protected, the neurotic child should be able to be cured. To distinguish between them is extremely difficult if not impossible by any clinical method. The facts of heredity are elusive. Families do not easily recognize eccentric traits among themselves; they get used to peculiarities of behavior and are not aware how unusual or extreme such oddities may be. The psychiatrist often finds vague and undependable the facts of heredity which he is able to secure. For this reason, and because they need similar individual treatment in small classes, we made no effort to draw a line between the psychopathic and neurotic child at the beginning. Given the right treatment, the neurotic child naturally in time shows greater improvement and is more amenable to the lessons of experience.

At the end of the second year we felt that the teachers' records and continued knowledge of the child's progress, not merely in lessons but also in behavior, gave us material which we could offer to a psychiatrist as an aid to differentiation between the two types. In addition to the school history, the continued interest of a visiting teacher trained in taking notes on family histories provided a much fuller knowledge not only of hereditary trends but of actual character tendencies in members of the patient's present household.

We were fortunate in having the services of a psychiatrist[1] two mornings every week. The child who stood out as a stubborn misfit in his group was examined by the psychiatrist, who made the final judgment as to whether he should enter the neurotic class and whether he was ready to leave it. The psychiatrist also made suggestions about the curriculum and out-of-school activities. His conferences with the parents were invaluable, for the suggestions of a physician ordinarily carry great weight within the home. In every case the child who entered the neurotic class henceforth received individual treatment.

Once a school has been classified by intelligence tests, it becomes easily possible to single out the children whose difficulties arise from some other cause than intellectual backwardness. There still remain a few, possibly one child in every three or four classes, who seem to defy the psychological group in which they have been placed. Those who definitely fail to keep up with the rest of the class in the usual school subjects or who are still outstandingly antisocial, immediately come to the fore and demand attention.

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[1] Dr. George M. Parker has worked for three years in Public School 64 on the problem of the neurotic child and the light this problem sheds on similar trends in normal children.

We have spoken of the way in which the dull normal child becomes antisocial through long-continued academic failure. Regarded superficially, the neurotic child often makes the same impression as the dull normal or the mental defective. But when he is sent to the ungraded clinic, he is returned to the school with a diagnosis of normal intelligence. The teacher still remains unconvinced. "If ever there was a mental defective, it's that boy. He can't sit still; he twitches all the time; he never attends." This child can only be differentiated from the others whose obstacles are of an intellectual nature when the psychological classification has been uniformly carried out. This also answers the query sometimes put by visitors: Why doesn't the neurotic child occur in other schools? We assume that he does and in about the same proportion as in ours. When so many children of so many varying degrees of intelligence are present in the same class, however, so many of them react in the wrong way that the causes are confused and undistinguishable. One of the great advantages of the psychological classification is that it throws into relief other deviations less clearly understood, and compels the educator to strive for a better understanding of the difficulties which arise from handicaps of personality as well as those which result from deficiencies of intelligence.

NORMAL INTELLIGENCE OF THE NEUROTIC CLASS

In selecting the children for the neurotic class, we included only those who were at least of average intelligence. Still, they were social misfits or academic laggards. This is, at best, only a rough method of testing, for the background type of child may temporarily maintain a fair academic record and still suffer from a degree of emotional disturbance which silently and poignantly appeals for relief. The child who, instead of merely making himself uncomfortable, makes the school uncomfortable by his failure in lessons or conduct, will naturally receive the first attention of the rescue squad. In a large school especially, this will inevitably be the case. But once the problem of the neurotic child has been specifically recognized by the school, the necessity of meeting it in all its different and more subtle aspects will also be eventually appreciated. The ultimate benefit should accrue to the far greater number of normal children who are now brought up on a school curriculum which is addressed to disembodied intellects regardless of their emotional or instinctive life.

The important thing is that a beginning should be made to meet a condition which was aptly described by one of the speakers at the International Conference of Women Physicians in 1919. "There is one last agency for the salvation of the neurotic girl (and boy), still to be considered. It is the most important and the most unprepared for the task of any, except the home. The school reaches practically every child, and does its part in deepening or lessening the neurotic tendencies. At present we are safe in assuming that for the most part it deepens these tendencies. It drives the neurotic child into truancy, vagrancy, anarchy, invalidism, and every form of delinquency, or hardens its emotional reactions into permanent moods, and it does all of this without in the least being aware of it. . . . If our public schools really educated, if they understood that education involves a training of the instinctive and emotional life as well as of the intellect, if they saw that they could not even develop intellect as long as they ignore desire, we should have an agency for adjusting the neurotic girl and boy second only to the home in its power. There is proof for this statement. Enlightenment is coming into education in spots. There are visiting teachers who work on the problem children in a school and get wonderful results. There are experimental schools whose methods are based on an understanding of the new psychology as it applies to educational theory. These schools are able to deal with the able but neurotic child who cannot get along in the public school. . . . They are not set like adults, and a little understanding, a little insight and patience, a mere approach to real educational methods gives immediate results that are almost like magic." [1]

In forming the neurotic class, we wished to differentiate between the distinctly neurotic type and the mental defective. This was all the more essential because the children were chosen for the class partially on the basis of poor school progress. Little is known as yet about the frequency of occurrence of neuroses along the curve of distribution of intelligence. But it seemed desirable to limit the class to children of normal intelligence in order to escape confusion of the problem and also to secure that homogeneity of ability which had come to be the accepted policy of the school. Children with IQ's of 90 or above were selected, the actual range extending up to 120. A few exceptions were made in the case of children whose IQ's fell below 90, on the supposition that their rating might improve on a second test, since there seems reason to believe that there is more variability in the IQ of the neurotic child than in that of others.

INDICATIONS OF THE NEUROTIC TYPE

An indication though not a test of this type of child is seen in his peculiar reaction to the intelligence test. His temperamental instability comes through in two ways: he is likely (1) to make a scattering test, and (2) to change his total rating on a re-test.

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[1] Taft, Jessie. "The Neurotic Child," from *Proceedings of the International Conference of Women Physicians.* Volume III, page 161.

By a scattering test is meant that his accurate performances, instead of grouping themselves around the norm for his age, are distributed through a series of years. If a child has an IQ of 100, it ordinarily means that he can do most of the tests for the year in which he actually is, probably all of those for the year before, and some of those for the year after. The neurotic child who has the same IQ may, nevertheless, make a very different picture on his test paper. He is more apt than not to fail on tests for an age several years below his own, and pass on others above his years, giving him in the total estimate the same IQ as the other child, but showing a lack of reliability and self-confidence in his intellectual performances which is characteristic of his unstable and irresolute behavior in the classroom and outside.

When this tendency is sufficiently pronounced, it becomes a fairly valid mark of the neurotic individual. A test, which is an extreme example of this, gave the following capricious record of responses. The boy was 9 years and 6 months old at the time of the test but it was necessary to go all the way back to the fourth year before he could answer all questions. In the fifth year, he failed on one test; in the sixth, on two tests (one of them made up of common sense questions); in the seventh, on three tests; in the eighth, on three again; in the ninth year, on two tests; in the tenth and eleventh years, on most of them; in the twelfth year, he could repeat the digits backward and could do the same in the average adult test and the superior adult test. Owing to this special ability, his IQ came up to 86, while his failure on all the common sense questions above the fourth year left him open to the suspicion of being a mental defective. On the basis of the test alone, we do not know whether he is a mental defective with a special ability, or whether he is an extremely neurotic individual. Let us point out that a test paper which scatters to this extent indicates unfailingly the presence of a problem in the child. Those who are not familiar with psychological testing will scarcely appreciate how rare is this erratic type of response and how indicative it therefore comes to be.

Another manifestation of instability is found in the way the neurotic child inclines to deviation in a second test. In a former chapter, the correlation between first and second tests has been discussed, showing the high degree of correspondence which ordinarily exists. It was there suggested (Chapter V, page 104) that the high correlation found, that is, .98, may have been partly influenced by the absence of the neurotic classes from the group re-tested. The re-testing of the neurotic classes was subsequently carried out in order to make a special study of their tendencies in this respect. Table XXII shows the variation between first and second tests in a group of thirty neurotic children.

By referring to Chapter V, pages 100–101, we find the variations in 322 comparisons to be as follows: 9.6 per cent gave the same IQ; 48.9 per cent varied within three points above or below; 76.5 per cent within six points above or below; and 90.1 per cent within nine points above or below. Although the group of neurotic children re-tested is small, the variations have been measured in percentages in order to compare them with the larger group. In the neurotic group, 3.3 per cent gave the same IQ as against 9.6 per cent in the normal group; 26.6 per cent varied within three points above or below as against 48.9 per cent in the normal group; 46.6 per cent varied within six points above or below as against 76.5 per cent in the normals; and 53.3 per cent within nine points above or below as against 90.1 per cent in the normal group.

In the larger and normal group, almost half of the children

TABLE XXII

SHOWING COMPARISON BETWEEN FIRST AND SECOND TESTS IN A GROUP OF 30 NEUROTIC CHILDREN

CHANGE IN IQ	NUMBER OF CASES				
Above + 20	1				
+ 19	0				
+ 18	0				
+ 17	0				
+ 16	1				
+ 15	1				
+ 14	1				
+ 13	0				
+ 12	2				
+ 11	0				
+ 10	0				
+ 9	1				
+ 8	0				
+ 7	0				
+ 6	1				
+ 5	2				
+ 4	0				
+ 3	1				
+ 2	0				
+ 1	2				
0	1	3·3%	26.6%	46.6%	53·3%
− 1	1				
− 2	1				
− 3	2				
− 4	1				
− 5	2				
− 6	0				
− 7	1				
− 8	0				
− 9	0				
− 10	2				
− 11	1				
− 12	2				
− 13	0				
− 14	0				
− 15	0				
− 16	1				
− 17	0				
− 18	0				
− 19	0				
Below − 20	2				

did not change their IQ more than three points; in the smaller and definitely neurotic group, almost as large a proportion, that is, almost half, changed their IQ's as much as 10 points or more. In other words, the child who changes his intelligence rating more than ten points when re-tested is an unusual child, as has been said before, and this inequality of performance may be due to an instability in the subject which is not momentary but habitual and will respond only to prolonged educational treatment.

An attempt was made to formulate a psycho-neurotic questionnaire for school children based on the questionnaire arranged by Prof. Robert C. Woodworth for use in the army. A group of psychologists working with this problem among school children made the adaptation here reproduced.

Psycho-neurotic Questionnaire for Children [1]

NAME____________________AGE________SEX________SCHOOL____GRADE

1. Do you like to play by yourself better than to play with other children? . . . Yes No
2. Do other children let you play with them? . . . Yes No
3. Did you ever run away from home? . . . Yes No
4. Did you ever want to run away from home? . . . Yes No
5. Do people find fault with you much? . . . Yes No
6. Do you think people like you as much as they do other people? Yes No
7. Did you ever get lost? . . . Yes No
8. Do you ever feel that people are staring at you? . . . Yes No
9. Does it make you uneasy to cross a bridge over water? . . . Yes No
10. Do you mind going into a tunnel or subway? . . . Yes No
11. Are you afraid of water? . . . Yes No
12. Are you afraid during a thunder storm? . . . Yes No
13. Do you feel like jumping off when you are on a high place? . Yes No
14. Have you ever been homesick? . . . Yes No
15. Are you afraid of the dark? . . . Yes No
16. Are you often frightened in the middle of the night? . . . Yes No
17. Are you afraid of noises in the night? . . . Yes No
18. Do you have a light in your room at night? . . . Yes No
19. Do you ever cry out in your sleep? . . . Yes No
20. Do you talk in your sleep? . . . Yes No
21. Do you walk in your sleep? . . . Yes No

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[1] Published by the Public Educational Association of the City of New York.

Psycho-neurotic Questionnaire for Children — *Continued*

NAME______________________ AGE________ SEX________ SCHOOL____ GRADE

22. Are you troubled with dreams about your play? Yes No
23. Do you dream about your family? Yes No
24. Do you ever dream of being chased? Yes No
25. Do you ever dream of people being dead? Yes No
26. Do you dream of robbers? Yes No
27. Do you ever have the same dream over and over? Yes No
28. Do you ever cry yourself to sleep? Yes No
29. Did you ever have the habit of biting your finger nails? Yes No
30. Did you ever have the habit of picking your toes or your nose? Yes No
31. Did you ever have the habit of stuttering? Yes No
32. Can you sit still without fidgeting? Yes No
33. Did you ever have the habit of twitching your head, neck, or shoulders? Yes No
34. Do you break and tear and spoil things more than other people? Yes No
35. Do you ever get so angry that you see red? Yes No
36. Do you stumble and fall over things more than other people? Yes No
37. Are you over-particular about your food? Yes No
38. Is there any one kind of food that makes you very sick? Yes No
39. Is there any kind of food that disgusts you so that you cannot eat it? Yes No
40. Are you usually happy? Yes No
41. Do you ever feel that nobody loves you? Yes No
42. Do you ever wish you had never been born? Yes No
43. Do you ever wish you were dead? Yes No
44. Do you ever get so sulky that you will not answer people? Yes No
45. Are your feelings often hurt so badly that you cry? Yes No
46. Do you ever giggle over nothing at all? Yes No
47. Is it easy to get you cross over very small things? Yes No
48. Did you ever have a real fight? Yes No
49. Do you like to tease a person till they cry? (*sic*) Yes No
50. Can you stand pain as quietly as others do? Yes No
51. Can you stand the sight of blood? Yes No
52. Do you ever feel a certain pleasure in hurting a person or an animal? Yes No
53. Did you ever have a nickname that you didn't like very well? Yes No
54. Do you feel that you are a little bit different from other people? Yes No
55. Do you sometimes feel that nobody quite understands you? Yes No
56. Do you worry much over family matters? Yes No
57. Do you seem to have a harder time to get along in school than other children do? Yes No
58. Do you ever think stories to yourself so that you forget where you are? Yes No
59. Do you ever make believe that things you wish for are true? Yes No
60. Do you ever feel that your parents are not really your own? Yes No

Psycho-neurotic Questionnaire for Adolescents. Used in Addition to Questionnaire for Children

NAME____________________________AGE_______SEX______________SCHOOL_________GRADE

1. Do you ever have the feeling as if you were falling just before going to sleep? Yes No
2. Do things ever seem to get misty before your eyes? Yes No
3. Do you ever feel as if you were smothering? Yes No
4. Are you often bothered with pains in any part of your body? Yes No
5. Do you worry too much when you haven't finished your lessons or work? Yes No
6. Are you ever bothered by the same thought coming into your head over and over? Yes No
7. Are you usually on time? Yes No
8. Do you usually feel well and strong? Yes No
9. Do you usually sleep well? Yes No
10. Do you feel well rested in the morning? Yes No
11. Do you feel sort of tired a good deal of the time? Yes No
12. Do you feel bored a good deal of the time? Yes No
13. Do your eyes often pain you? Yes No
14. Do you ever have many bad headaches? Yes No
15. Have you ever fainted away? Yes No
16. Have you often fainted away? Yes No
17. Can you stand disgusting smells? Yes No
18. Does your family treat you right? Yes No
19. Do your teachers generally treat you right? Yes No
20. Are you ever bothered by a feeling that things are not real? Yes No
21. Are you ever troubled with the idea that somebody is following you? Yes No
22. Do you ever feel that someone is trying to do you harm? Yes No
23. Does it make you uneasy to cross a wide street or open square? Yes No
24. Does it make you uneasy to sit in a small room with the door shut? Yes No
25. Do you usually know just what you want to do next? Yes No
26. Do you have a hard time making up your mind about things? Yes No
27. Can you do just as good work when someone is looking on as when you are alone? Yes No
28. Do you have a great fear of fire? Yes No
29. Did you ever have a strong desire to set fire to something? Yes No
30. Did you ever have a strong desire to steal things? Yes No
31. Do you think you have more fears than most people? Yes No
32. Do you make friends easily? Yes No
33. Do you get tired of people easily? Yes No
34. Have you any very strong superstitions? Yes No
35. Did you ever have a vision? Yes No
36. Did you ever feel that you were very wicked? Yes No
37. Do you sometimes feel very happy and then suddenly very sad? Yes No
38. Do you consider yourself a very moody person? Yes No
39. Do you like to be tickled? Yes No
40. Do rough things set your teeth on edge? Yes No

While this questionnaire has not proved successful for group use, as was the one devised for adults, it has, however, formed a practical basis for individual interviews. It is as suggestive as anything we have at the present time for this purpose.[1]

SPECIAL DISABILITIES AND TALENTS

Closely related to the neurotic child from the point of view of school organization, is the child with a special disability. His failure in some special study, such as arithmetic or reading, does not accord with his standard of performance in all other kinds of work. Thus far no clarifying theory for the special disability case has been advanced. We only know that it is rare and that it defies the psychological principle set forth in a previous chapter, *i.e.*, that the great majority of children tend to maintain a fairly even level of school achievement in accordance with their intelligence quotient. Whatever may be the cause of this special handicap, it is invariably associated with a loss of self-confidence and weighted by a burden of sensitiveness, which distorts the character of the child and assimilates him to the neurotic type as a school problem. Only individual methods will avail, and even with these, it is extremely difficult to ameliorate the handicap of a special disability.

One of the first children to be placed in the neurotic class was Peter Jawork, a boy with a special disability in reading. He was then nearly twelve years old and had attracted attention for several years as a peculiar "scholarship" case. Far from being a problem in social adjustment, he was quite the reverse, showing a good sense of responsibility and considerable ability in carrying out the practical affairs of life.

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[1] The standardization of this questionnaire and the formulation of norms was made the subject of a dissertation by Ellen Mathews, Columbia University, entitled, *A Study of Emotional Instability in Children by Means of a Questionnaire.*

His rating according to the psychological test was 90; yet he had never been able to learn to read. He had been tutored in reading by two teachers who were experts in teaching the subject to beginners; he had been tried in the ungraded department in order to benefit by smaller classes and better methods; and he had received the attention for a time of specialists in Teachers College, who had tried to discover his academic stumblingblock. In the fall of 1919, Peter was placed in the neurotic class, where he could receive individual instruction, without contact with defective associates, and where he could be under the observation of the psychiatrist.

At the age of eleven, Peter had worked up a strong sense of inferiority over his lack of academic attainment and was beset by fear of failure regarding any new endeavor that might prove difficult. He also suffered from physical fears. When his class was attending a dental clinic, Peter could not bring himself to sit in the chair, although he was acutely humiliated by his own inability to brave what the younger boys could. At another time, when several of the children were taking some medicine tablets, Peter could not force himself to swallow one of them. When urged, he would grow pale, cover his face with his hands, and quake. After two years in the neurotic class, he had made but little progress in reading, but his general state of mind showed decided improvement. The depression in which we first found him was no longer characteristic, a very important fact, for the moods which had grown up around his failure in reading threatened his future more sternly than did his academic deficiency alone. To a teacher who was directing him with unnecessary detail how to do some simple errand, he replied with dignity and absolute truth, "I'm not stupid, though I can't read."

Like the special disability of one child, the special talent of another proceeds from we know not what cause. The belief has been advanced that the development of a special talent is due to heightened interest and is a matter of the affective life rather than intellectual ability alone. If this is the case, the origin of the special disability would logically be found in the same region of the personality. The emotional trends may depress or accentuate some particular activity until the individual seems stupid to the point of feeble-mindedness or else gifted to the point of genius in that one direction.

In Aaron Steinfeld the problem of a special ability was exemplified. Even before this child came to school, at the age of six, he had achieved considerable notoriety as a prodigy. He was able to perform remarkable feats in mental addition with the accuracy of an adding machine. When a series of eight or nine numbers with five or six digits each was read to him, he replied after a moment's reflection with the correct total. The one concession required by his immaturity was that the numbers should be concrete numbers; he preferred adding nuts or apples or marbles to adding pure abstractions. His performances would have been extraordinary at any age; at the age of six they had brought him far more publicity than was good for him. While he had been stage-managed by a proud father before audiences of neighbors, reporters, and teachers, he was morbidly shy and solitary in his school class.

When he was tested, at the age of six, he showed normal ability up to his age and above that very scattering ability up to twice his age. His computed IQ was 120, but this designated a very irregular superiority. He was placed in a Terman group of bright children. Here his class work was scarcely up to average and his social adjustments were excessively poor, as was to be expected of a child who had been treated at home partly as a baby and partly as a prodigy. His mother was dead and his home-training, conducted by a father and three much older brothers, had consisted of early neglect, which, after the discovery of his special ability, had turned to over-valuation. As the child had evidently a neurotic bent, the school refused to allow his special gift to be exploited further for the entertainment of grown-ups. The father, however, interpreted this as a failure of appreciation, and after two years withdrew the boy from the school.

Aaron's failure in school was especially in relation to his classmates; his teacher had little complaint to make of him. His reaction to this failure was to withdraw himself still further from the group. Had he been the opposite type of child, he might even have found pleasure in the exhibition of his special gift. The desire to be conspicuous, however, resided in his father and not in him. In such a combination of circumstances appears a typical neurosis-forming situation. The attempt on the part of a parent to force a child to realize his own unfulfilled ambitions is a far from infrequent cause of neurotic conflict. The boy's remoteness from his classmates was complacently accepted by his father as a mark of superiority rather than as a danger signal of possible shipwreck.

FORMATION OF THE FIRST NEUROTIC CLASSES

Knowing that the ungraded department was open to experimental methods and that it also offered the advantages of small classes and good teachers, we asked for sanction to try the first neurotic class under its protection. At first one class was formed and later two, with about fifteen children in each. All were under twelve years of age and below the sixth grade. In two respects, the first neurotic classes differed from the early experimental classes for mental defectives: they were younger in age and less extreme in type.

The first class consisted of children from 1A to 3B. In spite of a normal intellectual equipment, they did not seem able to gain skill in number work or reading, or else they were so restless and difficult that they interfered with the work of the regular class. Several of them were "disciplinary" cases for whom the teacher made excuses, saying that the child was not malicious or willfully disobedient, but that there was something wrong with him which he could not control. Through the work of the visiting teacher and the consultations of the psychiatrist, coöperation with the home was maintained. Since the children were problems at home as well as at school, the parents were usually ready to welcome the assistance which was offered them. After the class had been in existence two years, the second class was formed in order that the class could be grouped according to age.

The first neurotic class has been in operation for three years. Twenty-two children have received instruction at different times since its organization. All pupils remained in the group for at least one year, and some have remained for the entire three years. The following is a statement of the length of time spent by these twenty-two boys in the class:

Boys	Years
5	3
2	2½
2	2
4	1½
9	1

The twelve boys who returned to the regular grades were replaced just where they would have been if they had never left the regular class. Of the five who still remained after three years, four gave little promise of ever adjusting themselves to the conditions that must exist in the average classroom. This presumably psychopathic group is a burden which every school and community is obliged to carry in one way or another.

A good test of whether the boy is prepared to return to the regular class is whether he wishes to go back. And then, when he feels prepared to brave the rougher elements of the normal group, some care should be taken in the selection of a teacher. An over-strict or over-critical teacher may drive him to resort to his infantile and maladjusted habits. The sensitivity of which he is a victim cannot be overcome at a single bound; the school must use whatever means it may have at hand to arrange that his progress shall be made by steps. It is easy for a conventional and over-conscientious teacher to lay too much stress on word-of-honor methods and moral heroics, thus helping the child toward failure when he should be tactfully helped toward success.

The neurotic classes were given rooms to themselves with special equipment, consisting of the free furniture now standardized in the ungraded department. The teacher was allowed the greatest freedom in the course of study, methods of teaching, and program. The physical care of the children was emphasized. Rest chairs, which were made especially for these classes in the school shops, stood in the back of the room and the children were allowed to retire to them at any time. They were carefully examined for physical defects, and, through the coöperation of the hospitals, and with the consent of the parents, medical and surgical treatment was procured for them.

While it did not appear that physical ill-health was the source of their neurotic condition, a certain lack of physical tone seemed to be associated with it. Health periods were definitely provided for in the curriculum, and the children acquired considerable knowledge of the subject and wrote their own health readers. While it seemed profitable to direct their attention in general to hygienic living and matters of health, in a number of cases it was equally necessary to direct the child's attention away from the subject, because, as was to be expected, symptoms of hypochondria were not lacking in the group.

COURSE OF STUDY

In constructing the curriculum for these children, there was no precedent to be followed. This, if not a helpful fact, was at least not a hampering one. The program which had been evolved at the end of two years represents a practical combination of what we thought the children needed and what we were able to get for them. The following was the daily schedule of the class:

Daily Program

	A.M.
9.00– 9.30	Academic Work.
9.30–10.00	Showers or Swimming Period.
10.00–10.30	Games.
10.30–11.00	Orchestra.
11.00–11.30	Hand Work.
11.30–12.30	Academic Work.
	P.M.
1.30– 2.30	Shop, Bench Work.
2.30– 3.00	Academic Work.

Every morning the class had a shower bath, and once a week a swimming period. The purpose was not so much the development of the habit of cleanliness, although this was a desirable by-product, as the general toning-up effect on the nervous system and the daily mood of the child.

The psychological benefits derived from the freedom of this kind of exercise cannot be too greatly emphasized. One of the things that seemed important from the beginning was to restore to these children some part of their lost inheritance, their primitive contact with reality. Under the artificial conditions of East Side life, the most ordinary yet stimulating experiences of the country schoolboy, such as running against the wind, wading through a snow-drift, getting soaked through in a thunder storm, are practically unknown. The problem seemed to be how to replace for the over-phantastic personality of the neurotic child the simple and primitive experiences which make for healthy physical and mental integration. The swimming pool seemed to be the only resource at hand to furnish this kind of tonic experience. Even the most hopeless day-dreamer must come back from the realm of phantasy while he keeps his head above water in the cold bath of the swimming pool.

When children are feeble-minded, we have to adjust their lessons to the limitations of their mental abilities. Similarly, the teacher of the neurotic child must provide for him activities which satisfy his instincts in some non-destructive way. The boy who walks along the palings and performs an ear-splitting rattle with a stick can be satisfied with rattling with a drum-stick, in time with other instruments. The boy who pushes others on the stairs can be given boxing gloves and sent to the mat with his equal. In the organized games and in the orchestra, the boys found a legitimate outlet for propensities which might have taken a more destructive course in the regular scholastic classroom. Games took the place of formal gymnastic work, as it was felt that too much regimentation would defeat the purpose for which the class was formed.

The neurotic adult has a tendency to be helpless with his hands, to be impotent in the face of any practical emergency. For this reason, handicrafts are often introduced in the treatment of neurosis as a stabilizing influence. While handwork has not the stinging exigency of a primitive experience, it is a good conductor of energy from the inside ego to the outside world. The lax posture and untoned muscles of many of these children indicate their unfamiliarity with the feeling of rugged physical fatigue.

The class had two periods of handwork a day. One hour was devoted to bench work, and half an hour to drawing and free cutting. In the shop, the handling of tools and coping with accurate measurements gave a much-needed objectivity to thoughts and plans. The drawing and free cutting gave an opportunity for more creative flights. The use of colors was made a prominent part of the work. The gay paints and crayons were materials for producing effects in an impersonal world. The exhibitionist child found here a new mode of making an impression which satisfied his insistent craving to be always in the limelight, while the retiring child was often lured out of himself through the congenial medium of color. You cannot force the phantastic child into purely realistic interests all at once. He must have half-way stations such as are provided by color, music, and dramatics.

In the beginning it was a problem how to reconcile these children to even two hours of academic work. The scholastic subjects were associated with their former conflicts and antagonisms. They were the battlefield where their dispositions had been lost. Reading seemed to be the subject most dreaded by the class. The teacher soon discovered, however, that it was not the subject but its symbol, the book, at which the children shied. She therefore determined to teach reading without books. During walks in the neighborhood the children learned to read the signs on the windows and on passing wagons. In fact, anything outside of a book, such as notices in the school yard or the Boys' Club, supplied the reading lesson of the day. Gradually they were re-introduced to books in small groups around the teacher's knee, where they were not reminded of their former humiliations in reading before large groups of classmates. A class library, which at first had been utterly neglected, finally became quite popular, until at last they were able to read from the grade reader without self-consciousness.

Number-work was not the general stumblingblock that reading was, but it also had to be taught for the most part in an individual way. Mathematical games were invented in which the whole class could take part, and which furnished drill for them all in the fundamental processes. In the few cases where arithmetic happened to be the *pons asinorum* of the child, patient tutoring was carried on daily while the other children did practice work.

Milton Sternberg was a boy who was gifted in the use of words and who, unlike most of his classmates, found easy rapport with the printed page, but his ennui in the arithmetic class was little less than morbid. In the Thorndike Visual Vocabulary Test he stood first in a class of forty bright boys. His general intelligence was indicated by an IQ of 110. He was a soft, downhearted looking child, docile, obedient, withdrawing. The only complaint which came from home and school was that Milton liked to play too well, and usually with younger children. It was hard to get teachers to promote him in spite of his general excellence, because arithmetic is considered such an important subject. It was finally declared impossible, and Milton was placed in the second neurotic class. Here he was immediately recognized as the type of child that is "too good." While he was carefully shielded in the matter of arithmetic and expertly tutored, he was pushed into the general rough current of competition with boys of his own age and encouraged to develop a little aggression. A year of this combination brought him to the point where he was able to take his place in the regular grade.

THE TEACHER OF NEUROTIC CHILDREN

The selection of the teacher for the neurotic class is of primary importance. No teacher who is chiefly interested in subject-matter or believes in rigid discipline will be contented or successful in handling a group of neurotic children. She must have a scientific attitude towards, or an intuitive appreciation of, the emotional necessities of human beings, neurotic or otherwise. The ailment of the neurotic child is directly connected with his affective life and only indirectly with his intellectual life. The teacher must understand that her task is to change suspicion into confidence, feeling into judgment, resentment into forgiveness — in other words, to accustom the child to flexible adjustments towards the ordinary human relationships of life. She cannot herself be too proud to go more than half-way to win the trust of children in whom sensitivity and suspicion have grown to be a pathological habit. If she tends too much toward exclusiveness in her own affections and is inclined to play favorites in any way, she is not adapted to the leadership of this kind of class. She must be willing to stoop to conquer and must be able to address her liking and her sympathy to many rather than few children at a time.

These qualifications are not difficult to find. They are associated with a type of character which is fortunately not rare and hidden away, but frequent and wholly visible. Those who have the responsibility for the selection of teachers often speak of the personality of candidates, but the expression is usually applied in a vague and indefinite way. A more scientific appreciation of personality should make it possible to reduce the number of misfits in the teachers' ranks as well as the number of misfits among the pupils. The important fact to be established is not so much that a teacher "has personality" as that a teacher has a personality of one type or another and should be placed in the particular position where her particular type will exert a socializing influence on those about her.

It is clear that the disciplinary problems in a neurotic class cannot be handled in a conventional way. In fact, all stubborn cases of discipline in school should be looked upon as problems of mental hygiene. The boy who is sent to the principal's office once or twice may be passed over in silence; but the boy who is always in the principal's office, always accused of some infraction of the rules, should be scrutinized and scientifically dealt with. No boy should be permitted to become a continuous disciplinary problem. One of the results of a neurotic class such as was undertaken in our school was that no boy was allowed to develop into a permanent case of discipline. If he showed a tendency in that direction, he was gathered into the neurotic class, where life assumed at once a totally different aspect for him. The usual way of treating a child who misbehaves in school is to fence with him continually to prevent him from getting what he wants, without either the adult's or the child's knowing just what it is that he does want. Another kind of treatment in such a case is to try to find out what the child wants and give it to him for a time at least, to the end that he and all concerned may work together in the light and not at cross-purposes in the dark. The usual reason that he craves something inordinately and incessantly is that he has had too much of it or has had it too long, and then been suddenly deprived. Most children are able to adjust themselves to the successive weanings which life requires of them as they grow up; but with some children it is necessary to ameliorate the hard conditions of their sacrifices.

The teacher of the neurotic class must be willing to abandon a great many time-honored classroom methods. It is worse than useless to moralize with these children; they need to be led into wholesome activity and guided into healthful behavior by friendly suggestions and with as little ethical theorizing as possible. Sheer authority meets the situation only superficially. To shake a boy by the collar and tell him he has simply *got* to behave is folly. To mete out justice to him is frequently almost as useless. It is possible to punish a child justly but unwisely. The neurotic child does not present for the teacher the simple alternative of justice or mercy, but poses for her the much more difficult problem of what kind of treatment will improve his condition from the point of view of society.

It is never an educational experience for a child to be humiliated. Adults hate it, and will go out of their way to any extent to prevent such a catastrophe. Yet children are often deliberately humiliated by conscientious teachers as a punishment. Fear, like shame, paralyzes action, increases self-consciousness, and spreads itself over all sorts of unrelated things. These emotions lead to apathy, not to activity; they are destructive, not constructive; they are the source of morbid inferiority feelings which are in turn the source of antisocial conduct.

SAVING THE NEUROTIC FROM DELINQUENCY

Most of the people who commit crimes are children: some of them are intellectually immature and are called feeble-minded; still others come to grief through a backwardness of emotional development which is evidenced by childish and destructive behavior. Wherever life studies are made of the inmates of prisons, it appears over and over again that they did not get along well in school. They were insubordinate, idle, truant, etc. Few people make a career in life which is totally different from the careers they left behind them during their childhood progress through the elementary school. It would seem as if the school had the power, if it had the wisdom, largely to prevent the development of crime and criminals. The boy who has acquired the habit of adjustment in school will not so easily exchange it for the habit of maladjustment in the outside world. Although this does not follow as the night the day, the logic is sufficiently established to form a hopeful basis for the prevention of delinquency. The school already knows too well the possible future of the boy who grows restless in the third grade, steals in the fourth grade, plays truant in the fifth grade, and becomes a general nuisance in the sixth grade. It is naïve to suppose that all that this boy needs is punishment and stringent discipline. He needs help, and help of the kind which springs not only from good will and kind intentions, although these too are necessary, but from scientific knowledge of human motives and behavior.

One of the principal benefits of the neurotic class is the amount of light it sheds on the education of normal children. Just as we have been able to learn from the education of the mentally defective child how the intelligence of normal children develops, so we may hope to learn from neurotic children something about the emotional development of normal ones. The influences which make for elasticity and balance in this delicately adjusted department of life can no longer be minimized. We have learned from the neurotic child to what a startling degree the emotional status of an individual conditions his intellectual functioning. Yet the school, throughout its history, has ignored the feeling life of the individual as something outside its province. The educator has always assumed that the child leaves his feelings at home with his comb and his toothbrush, and only brings to the classroom his brains and his books. The possibilities of educational effort in the field of the affective life are still unexplored. We know that the intelligence, however inaccurately it may at present be measured, is more or less limited and can be educated only within these limits. Perhaps the great hope of the future of education lies in the fact that, so far as we know, the emotional life of the individual may be infinitely educable. When the school at last admits the whole child to its keeping, education will on that day seriously begin.

The following case studies will give the reader a picture of types of problems considered in the neurotic groups of Public School 64:

CASE STUDIES[1]

Isidor Eisen. Age 7 years, 2 months; IQ 98.

Isidor was reported as seemingly below the mental level of his class and frequently absent from school with headache. He was in 2B, the proper grade for his age, and his rating by the Terman scale was normal. During his test the examiner had noticed his expression of heavy depression, and it was her questioning in regard to this that had elicited the teacher's complaint.

The visiting teacher then had a talk with Isidor, but very little could be got out of him. He was uncommunicative, though his face told much. He wore a depressed, care-worn expression which one does not connect with childhood. His face was oddly long and pasty pale, with mouth drawn down, big eyes that looked old with submission to fear or sadness, and forehead marked with deep horizontal lines.

The home from which he came was far from cheery, but hardly wretched enough to produce such an effect. The father was a tailor in a small way and the mother spent most of her time helping her husband in the shop, which occupied the front room on the ground floor of their building, the family occupying the rear rooms.

In this dark apartment lived the parents and four children. Mrs. Eisen was a comely woman, though very busy and tired.

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[1] Contributed by Emily Leonard Brown.

She said Isidor had always been a sensitive child, but had showed no marked symptoms of fear until after he went to school. He was very much disturbed by the noise and confusion of school life. Each day's venture across the street to the schoolhouse was an effort. If he had been like some boys he would have taken matters into his own hands and "gone on the hook," but she was thankful Izzie was a good boy and always did as he was told. But the fear to which he could not react in a natural manner in the daytime carried over into his nights, and he was constantly beset by dreams of bandits; even when awake he would hear mysterious noises which he interpreted as robbers coming down from the roof in pursuit of him. He used to run to his parents' room; but later he grew ashamed of his cowardice and would slip quietly out of bed and crawl under it, careful not to awaken his brother, who would have been sure to laugh at him.

This particular year he had a teacher who was a tense, high-strung person, and although Isidor himself was a quiet child and was never scolded, he identified himself with all the other little victims of her sharp scolding voice. At this time his night terrors were greatly augmented. Nearly every night he woke screaming with fright.

After such nights, he came to school in a poor condition to concentrate upon his class work, and there was little wonder that he was reported as falling behind the class. He was entered in the neurotic class and his new teacher, understanding the conditions, expended more effort on making him happy than upon reading, writing, and arithmetic. Meantime, through the doctor's advice, the family had been induced to move into lighter, more airy quarters; and sunshine at all the windows could hardly fail to make its contribution to the work the new teacher was doing.

After two years in the neurotic class she felt that Isidor was fairly out of the woods; his work was normal and he was beginning to lose his expression of abiding gloom. He was therefore placed in a regular class, under the continued observation of the visiting teacher and the psychologist. After a few weeks, he began to show signs of a return to his old condition, and it was found that the teacher, though able and well adapted to her work in general, had not grasped this boy's particular problem. Her classroom manner, with its crisp exactness and sharp precision, recalled his old trouble. He was slipping back again rapidly, so the head of the department advised trying him with another teacher of the same grade before giving up hope of success. This time very careful selection was made with regard to temperament. He was placed with a young teacher whose habitual gentleness of manner and soft voice at once relieved the tension. A term with her reassured him and helped to stabilize his earlier improvement. At the next promotion time it was thought best again to select Isidor's teacher with special care. This time he was put in the charge of a young woman with more drive but with a big, easy humor which neutralized what might have been to him the more terrifying character of her class discipline. She was able to set him little by little upon less dependent feet. This, however, would have been difficult of accomplishment without the previous careful course of treatment.

Today Isidor has no more fearful dreams of robbers and takes his place in school and class in a normal manner. Not long ago his teacher asked the visiting teacher to read some compositions her boys had written describing their Christmas vacations. Out of Izzie's paper jumped the phrase, "and my heart was full of laughter." It was a jolly little description of a holiday with his father, with technical errors, but freely expressed and full of buoyant spirits.

Hyman Fox. Age 6 years, 4 months; IQ 104.

Hyman was in the second grade when the visiting teacher first made his acquaintance. His teacher complained that he could not read as well as many of the 1A grade children, and seemed to make no progress in spite of the special effort she had expended upon him. The same complaints had come from previous teachers. He had no outstanding physical defects, and his vision was normal. These facts were ascertained through the school medical work. Then home visits were made.

The standards of the home compared more than favorably with those of the neighborhood. The family occupied an old-fashioned "railroad" apartment in one of the important business streets, but the rooms were fairly large and were kept well aired. The housekeeping was immaculate. The father had been a liquor dealer, but foreseeing prohibition, had gone into the candy business recently. Apparently a well-adjusted individual in his environment, he was inclined to take Hyman's school difficulties lightly, claiming that he had had a "hard time in school" himself till he was about twelve years old. The mother called herself a "weak woman" and very "nervous," and indeed, with her high narrow forehead and much-lined delicate face, she did not present a picture of stolidity. She evidently accepted semi-illness as the lot of woman, and perhaps the distinguishing mark of refinement. The eldest daughter, aged nineteen, was in good health and had made normal progress in school. She was now a stenographer making good wages. Another sister, sixteen years old, had a serious spinal curvature, which had caused her a great deal of pain and had made her attendance at school irregular and difficult. She was unusually bright and quick to learn, and had been able, in spite of her handicap, to maintain herself as a stenographer. The third sister, fourteen years old, had left school in 6B, after an illness with brain fever, which had left her unable to apply her attention to her school work. She confided to the visiting teacher that she felt she had never been a strong student, mathematics being her weak point; and, as her older sisters had done so well, she had felt discouraged and was glad to be released from the competition. She had been at home with her mother ever since, on the ground of ill health, though she appeared robust enough to the casual observer.

Hyman was the baby, the only child, really, in a family of adult people, for even the fourteen-year-old sister was very mature and womanly. Further, he was the only boy, and added to that, the only blond, which in many Jewish families constitutes almost worshipful beauty. In addition to his own immediate family, already rather top-heavy with feminine adults, he was the object of special devotion of numerous aunts, all of whom had hung upon his first baby words and admired his growing ability, and all of whom had predicted a brilliant school career. As a matter of fact, he was a very normally equipped child, with a good comprehension and an excellent memory. He was self-conscious and eager to receive at school the admiration to which he had been accustomed. He doubtless surprised even himself by the ease with which he began to read, and he had been reading with but few mistakes, for some little time, before his teacher discovered that it was pure memory work, a method which he had adopted in his eagerness to grasp the thing quickly and show up well.

When she had made him understand the mistake, he was plunged into a very real despair. He had to attack anew this puzzling technique which he had supposed he had mastered so quickly, and he felt that he was hopelessly far behind the rest of the class. But he never admitted at home that he was having any difficulty. The family asked him often of his progress. Indeed he had the question hurled at him from all sides, from mother, sisters, aunts. He began to avoid the family. He was cozened and kissed and quizzed about how much he knew and how well he could read. But whenever they got him at bay, of an evening when he could not wriggle away, and demanded his showing off his supposed prowess, he resorted to his old trick — memory reading. At last the sisters began to suspect that something was wrong, but he stoutly defended himself by asserting "that is the way the teacher says." He came to hate the family attentions, because, instead of contributing to his self-esteem, it always emphasized his own sense of deficiency. He began to play much outside and to delight in picking up the explosive words and insulting epithets of the street. He was making a huge effort at self-assertion. He learned to fight, and fight violently, and came home from conquest with a swagger. He was given to using expressions whose meaning his mother did not know, but of which she recognized the import, and she chided him for "talking dirty" in the presence of his sisters. This only set him more aloof from the family. He felt that his success lay outside their standard and ken, and he became something of a bully with other children.

In the classroom his life was even more difficult. His technique with the adult was an attitude of respect coupled with every sort of devious attempt to get his own way. The necessity of keeping up a front before the other boys created the conflict. He adopted habits of showing off, little tricks of lawlessness, while his fear of disapproval and censure was manifested in silly grins and a certain tendency to be sly. All the while, he never admitted his failure at school. He avoided the subject when he could, would never allow his sisters to help him with his lessons. If questioned, he stoutly maintained that he was getting on all right. But his mother told the visiting teacher that during this period, she once heard him muttering in his sleep, "It ain't so hard. It can't be so hard. I ought to do it. Why can't I do it?"

Hyman was placed in the new class and his teacher was advised that at all hazards his confidence must be built up. He was assigned no reading for a time, and allowed to stress number work where he had a reasonable skill, and where he could rightly earn his normal share of approbation. Meantime, as the class program included a maximum of gymnasium work and swimming, and also stressed the use of tools in the carpentry shop, he had plenty of opportunity to exhibit before the other boys his excellence in the more robust pursuits of life. Little by little, he was tried out with reading, never long enough at a time for him to sense definite failure. By a one-step-at-a-time method the teacher was finally able to give him the technique without coming into direct combat with his resistances and fears. The visiting teacher, meantime, kept up relations with the family and was successful to the extent of persuading them not to prod him on the subject of his school work. After three years in the neurotic class, he did learn to read, not unshakably perhaps, but at least it was reading, not repeating by memory.

Thinking to encourage Hyman, and also to make room for another needy applicant, his teacher then put him into a regular class. But some of the habits he had built up in self-defense had not been fully outgrown, and he did not get on well in the larger group. His tendency to "play smart" came to the fore; he annoyed the other boys and was unable to maintain any degree of concentration upon his work. It was finally decided that he had not attained sufficient balance to fit in with the larger group, and he was returned to the neurotic class, where he has again assumed a relatively normal, unaggressive rôle. We look forward to a time, in this case, when the more normal outlook upon life, which he seems able to assume under the specially made environment of this class, may become more habitual with him.

Joseph Schwarzkopf. Age 7 years, 3 month ; IQ 96.

If Joseph was exasperating on account of his restlessness and his persistent truancy, he was also lovable. A draggled, unkempt little creature, whose face and hands were always dirty, whose shirt was never whole, whose stockings were always down or coming down; still he had a certain manliness in the stubborn set of his shoulders and a pathos in the delicately featured face that made a strong appeal. The appeal was rather enhanced than otherwise by the fact that he had only one eye.

Joseph had experienced a great nervous shock when, as a child of two, his mother had accidentally spilled boiling water on him, resulting in the loss of his eye. Perhaps it was too great a shock for his nerves to forget. At any rate he had a constant slight body tremor, much aggravated when under excitement.

When Joseph was first brought to our attention as a problem child, he was six years old and in the first grade. With his mental grading, he should have been able to keep up without losing a class so early in the school course. His truancy was, of course, partly responsible, but we felt that such persistent truancy in the lower primary grades was in itself unusual enough to bear investigation. It was found that vision in his one eye was normal, and his health good. Attention was then turned to the home.

His father was a garment worker who received good wages when employed. His mother had died of tuberculosis a little over two years before, leaving six children, one older and four younger than the six-year-old Joseph. The helpless father had put them all in an orphanage until he could find them a new mother. When the new mother was established in the home, the family was reassembled. It was doubtless a hard transition, this return from institution life to a relatively much more complicated world, with a dominant new personality in the home instead of their own mother, whom they were quite old enough to remember.

Joseph was clumsy and blundering, with a clownish humor that endeared him to his contemporaries but made him trying to grown-ups. His stepmother found him so.

She did not like him. She admitted it quite frankly to the visiting teacher, though she said she had made an honest effort to do so. Her standards on the material side of living were of a high type. She wanted a well-kept home and a group of nice-looking children of whom she could be proud when her friends called. It was hard enough to make Joseph look presentable with his one eye, even if he had shown any pride in his appearance; but as it was, there was no use doing anything for him. He was a black sheep among the stepchildren.

Was it any wonder, too, that Joseph was unhappy? Could he be a black sheep without feeling it? He was much away from home, often out all night, and of course absent from school at such times. He was living in a world of adventure, in which he was a bandit, an outlaw. Well, so he was, an outlaw in the family circle, and he was merely carrying the thing out a bit more completely in phantasy.

The visiting teacher explained to the parents that Joseph could be better helped just now by a considerable show of affection than by threats and beatings, and made some concrete suggestions in application of the theory. He was to have a new glass eye, the old one had grown too small. It was hard to make them realize that they ought to spend money for a glass eye every few months, when they had so many uses for money, and Joseph was such a bad child anyway. However, if they did not get the full force of the argument, they began to regard Joseph's misdemeanors somewhat in the light of a question to be met and studied.

Meanwhile the visiting teacher had him enrolled in the neurotic class, passing on her information and recommendations to the teacher, who was asked to make Joseph feel useful, and cherished, and depended upon.

In carrying out her part of the program the teacher discovered that he had a bent toward leadership which she turned to account, but it all took time, and Joseph had several falls from grace. There was one occasion, long after the teacher had begun to think of him as fairly on the safe road, when he took a younger boy with him on a wild adventure "out West," and did not turn up all night or all the next day. When the culprits were found and returned home from Jersey City, which seemed like West of the setting sun to them, no very great stir was made. They settled down again in good spirits and did not repeat their travels.

The summer after this adventure the visiting teacher asked Christodora House, the neighboring settlement, to take Joseph to their vacation camp. When he came back to school in the fall he looked brown and sturdy and bore himself with more assurance. His stepmother said the camp had done him good, and that he was better tempered and easier to live with at home.

In time, naturally enough, the good effects of his outing wore off and the first bright feathers molted from his wings. His home relations, however, continued somewhat happier, and he attended school more regularly. His greatest difficulty came from his lack of self-confidence and his easy discouragement. Often he refused to try a difficult passage in reading or arithmetic, throwing his pencil on the floor in despair and disgust; but, after a chance to wrestle it out with himself, he would return to his work and be faithful for a time.

Even now after more than three years in the special class, Joseph needs a personal, friendly contact with the teacher. His IQ has been gradually slipping down below the technical horizon of normality. If this downward trend persists, he may finally be permitted to enjoy the advantages of an ungraded class.

He is one of the two children in the neurotic group who, after fluctuations of the IQ, have definitely settled down toward an ungraded rating. A number of these children have, after several years of observation, turned out to be definitely psychopathic. Instances like these show the need of this type of class as a place of slow and careful diagnosis.

CHAPTER X

The Gifted Child

The gifted child is usually the last one to be reached by any special aid that education may devise. He, at least, is regarded as preëminently able to take care of himself. In any case, he can be trusted to surpass the average, and, while this may still denote personal and social waste, the loss is difficult to measure and therefore scarcely recognized. His accomplishment is compared, not with what it might have been, but with that of the average. Thus he is allowed to make a plus record for himself at the same time that he may possibly be more or less of a slacker. In fact, his superiority is sometimes looked upon by himself and others as a license to be lazy.

It has been vaguely assumed that all the gifted people needed by society would somehow be born from time to time. But it is a comparatively recent idea that they exist in a measurable proportion and that their superiority is a measurable quantity. The curve of distribution which we owe to the researches of Quetelet, Galton, and Gauss, shows that the production of superior people is not a matter of accident, but follows a comprehensible law. If one or two per cent of the population are mentally subnormal, an equivalent per cent are correspondingly superior. According to the curve, the very bright children balance the stupid in number.

The relative numbers of the feeble-minded in the population and the varying degrees of mental deficiency among them, have been scientifically studied by Seguin and his successors for more than half a century. A high degree of accuracy has been attained in the diagnosis of these lesser children who are destined never to outgrow the mentality of childhood. A similar degree of accuracy has been more recently developed in the means of measuring the superiority of precocious children who are destined to evolve the rare and over-topping intellects of their generation. The logic of the situation demands that the school shall take as much account of the gifted child as of the mental defective. The small superior minority is also entitled to special consideration in order that a rare endowment may be developed to its full maturity. While the imbecile must fulfill his destiny, it appears that the genius may fail to realize himself. The public school owes a special duty to both — protection to the defective and nurture to the gifted.

We mean by the gifted child one who is highly endowed with what is called intelligence and who may be assumed to have the capacity for developing a high degree of skill or talent along any line in which his interest lies. Beyond this we do not assume that he has any specialized gift or genius. Among the children of superior intelligence, however, we may expect to find the geniuses of the world. The quality of intelligence is a prerequisite; yet intelligence alone does not make the genius. The creative spirit derives from regions of the personality about which as yet we have only the beginnings of a scientific knowledge — the instinctive and affective life of the individual. We are not at all sure, in studying the geniuses of the world, that poise is essential to genius, although it is essential to happiness. At the same time we know that unhappiness leads to unproductiveness, that the lack of poise leads to sterility. The education of the gifted child should strive before all else to develop his many-sided abilities; to preserve in him the quality of balance which is a part of his original endowment and which is all too often sacrificed to a purely intellectual training.

THE FIRST CLASS OF GIFTED CHILDREN

When the psychological test, which had at first been used in the selection of mental defectives for institutional treatment, was taken over into the public schools, the practical possibility of applying the test also in the selection of superior children began to be appreciated. The original Binet Scale, which gave no adequate measure for a mental age above eleven or twelve years, was invaluable for clinical use but had distinct limitations for the school psychologist who was interested in the whole range of intelligence among children of all ages. It was not until the publication of the Stanford Revision in 1916 that it became feasible to measure the intelligence of very superior children.

Between 1914 and 1916, we had collected information concerning a number of children whose intelligence was indicated, though undefined, by the old scale, as much surpassing the average. With the new scale as a tool, we set out in September, 1916, to measure these children definitely and to discover others of like superiority, to form an experimental class for gifted children. It soon became evident that to collect a large enough group for such an undertaking it was necessary to go even beyond the limits of our own school of three thousand pupils. As the result of an exploration which occupied several months, it was decided to form a class of twenty-five children whose ages ranged from nine to eleven, who were found in or near the fifth grade, and whose IQ's reached 120 or above.

The children thus assembled from three different schools were started as a class in the term beginning February, 1917. The make-up of this first class is shown in Table XXIII. It was unofficially called a Terman class although officially listed in the register as an opportunity class.

Table XXIII

FIRST TERMAN CLASS, PUBLIC SCHOOL 64. TESTED AND ASSEMBLED SEPTEMBER–DECEMBER, 1916

Boys	Age in Years and Months	IQ at Entering Class	IQ at Entering High School*	Girls	Age in Years and Months	IQ at Entering Class	IQ at Entering High School*
W. H.	9–5	161	161	S. F.	10–4	161	161
A. B.	10–4	159	154	H. W.	10–2	154	150
H. S.	11–8	150	152	S. S.	11–3	149	152
R. P.	9–7	149	155	R. H.	11–5	141	141
I. K.	11–1	146	151	H. G.	10–2	138	146
S. R.	10–2	143	147	R. B.	10–5	137	138
I. S.	11–5	140	139	E. P.	10–8	137	136
P. M.	9–8	137	138	A. S.	10–0	136	135
V. S.	9–10	131	148	S. B.	10–2	132	137
H. L.	10–1	127	124	S. R.	12–5	129	132
H. C.	11–7	126	131	A. B.	12–0	125	129
H. R.	11–2	123	117	R. F.	10–9	120	120
H. G.	10–10	120	122				

* Interval between tests 12 to 15 months.

COEDUCATION OF SUPERIOR CHILDREN

This first class of superior children, as well as all the later ones, included both boys and girls. Although the experiment was initiated in a boys' school, the innovation seemed justified from several points of view. In the first place, since the class was designed not merely to make book education more efficient but to further the social adjustments of the children, we considered that coeducation was an essential part of a normal classroom atmosphere. In the second place, it is obvious that the inclusion of both sexes doubled the chances of finding superior children of like age without lowering the standard of excellence.

Had the class been limited to one sex or the other, we should have been obliged to make serious compromises. Either we should have had to draw the children from a wider geographical area covering more schools and requiring the children to travel long distances, which was not at all feasible; or we should have been obliged to take children of differing ages and grades in order to find enough pupils of the required rating, which would have been ill-advised from the point of view of the unity of the group and presentation of subject-matter; or we should have had to lower definitely the standard of superiority, making the requisite IQ perhaps as low as 110, which would have weakened the whole foundation of the experiment. Between the IQ's of 110 and 120, there exists a large group of excellent students, from whom, however, distinguished scholarship and achievement in higher education is not to be confidently expected. If any of these compromises had been unwittingly made at the beginning of the experiment, we know from experience that the integrity of the undertaking would have been greatly weakened.

Finally, we felt that a class which purposed to offer better advantages than the usual public school class, should provide, from the beginning, to extend its benefits to both boys and girls. It has repeatedly happened in history, especially in the field of education, that opportunities open to men as a matter of course had to be fought for later by women as special privileges. We did not wish to be responsible for adding another such absurd discrimination to the pages of educational history.

Although the boys and girls who were placed in the Terman classes had not been accustomed to being associated together previously in the classroom, there was no evidence of self-consciousness among them in their adjustment to a new situation. No attempt has ever been made to arouse a spirit of rivalry between the boys and girls, but every effort has been directed toward the encouragement of coöperation between them. An easy social atmosphere has been naturally maintained.

DEVELOPMENT OF THE DEPARTMENT

As soon as the first Terman class was launched and under way, we became aware that unexpectedly soon we were going to lose it to the high school. During the first term of this class, the work of assembling a second one was begun with younger children. In September, 1917, a second Terman class was started. After this, with each succeeding September, a new class has been assembled from the first and second grades of our own and neighboring schools. The later classes were all formed on the model of the first one, consisting of twenty-five boys and girls about evenly divided.

The department when completed included five different classes doing work from the second to the eighth grade. The school has graduated about a hundred Terman children into the high schools, and has a hundred and twenty-five children in the classes. The distribution of IQ's of these children is shown in Table XXIV.

The difficulties encountered in collecting these children from other schools were little short of ludicrous. While in the beginning principals were proud to produce their brightest stars to be tested, they soon became aware that they were losing from their schools children who would later do them credit. From this time on, no form of sabotage was too much trouble to keep us from finding the candidates for the Terman classes. In one instance, when it was announced that children were wanted from the third grade, the principal had the pupils whom she wished to hide transferred to another grade between the morning and the afternoon sessions. In other cases, after the candidates were tested and selected, the parents were dissuaded from allowing their children to be transferred. While these are extreme instances, many excuses were invented to prevent bright children from leaving a school where already they were making a good record. Since we were officially authorized to find these children and the Terman classes were designed to give them special opportunities, it was possible, though with much effort, to fill the yearly quota.

TABLE XXIV

SHOWING THE DISTRIBUTION BY IQ'S OF 246 CHILDREN IN THE TERMAN CLASSES

IQ	Number of Cases	Percentage
110–115	1	.4
115–120	11	4.5
120–125	44	17.9
125–130	53	21.5
130–135	46	18.7
135–140	34	13.8
140–145	12	4.9
145–150	18	7.4
150–155	14	5.7
155–160	3	1.2
160–165	5	2.0
165–170	2	.8
170–175	2	.8
175–180	1	.4
Total	246*	100.0

* This total includes, besides the children in high school and in the five grades, 21 children who have been in the classes and out again for various reasons.

Any similar attempt to establish special classes for gifted children is likely to encounter similar obstructions to the progress of the plan. Until our supervisory officials, including principals and superintendents, develop a true professional attitude which prevents them from putting their own personal feelings ahead of the rights of children and parents, we cannot hope for any true educational regeneration. In a city school system it is especially difficult to carry out this method of grouping unless there is coöperation among all the neighboring principals and superintendents. This does not mean that in some cases intelligent coöperation for the welfare of the child was not given. The adventitious difficulties, however, cannot be discounted, and must be practically reckoned with in planning such an experiment.

The selection of children of superior intelligence in a school which has not yet been thoroughly classified must be based on probabilities, in order to avoid useless work. In the formation of the Terman classes, the nucleus of each was derived from the topmost group of the classified grades. The other children were drawn from unclassified schools. The psychologist who goes into such a school to select candidates for testing, will save time by following the most significant indications. Among the older children, the task is simplified by the aid of the record card, which shows by a series of excellent marks a continuously high level of performance. Another indication to be taken seriously is any exhibition of special talent. Two of the boys chosen for the first Terman class were looked up because they had received prizes in large drawing competitions. and proved to have the IQ required for entrance. Among the young children. the eligible one is more elusive. When the teacher is asked for the brightest child in the class, it not infrequently happens that she replies by naming the oldest and the largest. This child is more mature in conduct, writes better perhaps, and does not fidget so much; consequently he makes an impression of superior ability by comparison with children whose mental age is the same as his but whose accompanying traits are a year or so behind. The psychologist was surprised to find that the estimate of the other children was not an unreliable guide in the matter. "Who is the brightest girl in your class?" was a question which always received a prompt answer and one on which, as the work progressed, the psychologist came more and more to rely. In all, one hundred and fifty children were tested to form the first Terman class of twenty-five. With more experience, it was later possible to reduce considerably the number of actual tests necessary for the selection of the twenty-five.

THE FAULTS OF RAPID ADVANCEMENT

Recently, the city schools had established classes in the seventh year for bright pupils who were thought capable of doing three years' work in two years. These children are expected to, and usually do, complete the seventh, eighth, and ninth years of the junior high school in two years. That is, there is an actual saving of one year during their swift transit through the junior high school. The other alternative and the time-honored one has been to "skip" the bright pupils. But this method, like that of the rapid advancement class, was usually introduced late in the child's school career. It should be noted that the underlying principle of both was merely that of saving time and gaining speed.

Such rapid transit schemes, although definite and spectacular, are often detrimental to the children. They do not seem to take into account that some of the profit in traveling consists in viewing the scenery. The gain should be distributed throughout the child's school life, with most of the rapid advancement occurring before the fifth grade. In the upper grades the content and subject-matter of the course are more important, for this is where the child's cultural equipment for the future is acquired. We believe also that there is a danger in rushing the children through the grades, be they ever so bright, so that they reach the high school prematurely, from the point of view of their capacity to form social relationships. Parents and teachers are still too much concerned with intellect alone. They are still too apt to judge the success of child prodigies by the early age at which they reach any given point in their progress through school. Experience has abundantly shown that many of these "wonder children" have failed to become the leaders in creative achievement which their early records seemed to promise.

PLAN OF THE TERMAN CLASS

The plan of the Terman class was to avoid superficial devices and to deal as much as possible with the fundamental educational problem. It included the completion of eight years in six, but with the proviso that the child should make haste slowly from the second or third grades onward. The principal effort was directed toward the enrichment of the curriculum to the end that the pupils might acquire a broader appreciation of life's values instead of scholastic skill alone. We feel that the all-round physical, mental, and character development of such children is the real criterion of success. We are firmly convinced that it is only defensible to expedite their progress through the grades, if such expedition is compatible with the development of an all-round, well-balanced human being. There is a grave danger of allowing these children to become over-intellectualized by fixing attention on their academic progress alone.

A small register was an essential feature of the experiment. Here again the rapid advancement class proceeded on quite another theory. As one enthusiastic supporter of the latter said, "You can put fifty or sixty on the register of those classes. They can sit anywhere — on the radiators if need be — and still go through eight years' work in six. You can't hold them back." This is probably not an over-statement of the possibilities, but it is open to the most serious objections from the educator's point of view.

These children are the hope of democracy and deserve the best and rarest that public education can offer. Large classes mean mass teaching, and mass teaching means stereotyped instruction. With large groups of children information may be given, but real teaching cannot be carried on; subject matter may be presented in dogmatic fashion, but this is just the attitude that genuine education most seeks to avoid. In a crowded classroom there is no chance for the development of initiative on the part of the children, a loss to which society cannot afford to remain indifferent. To the gifted ones of each generation we must look for leadership, but a congested school with a regimented atmosphere provides the wrong kind of character training and fails to stimulate a superior intellectual endowment toward aggressive and creative activity.

On the whole, special classes for bright children should not progress much more rapidly than other classes. A more varied intellectual ration is needed rather than a speeding up process; organic and orderly development is just as necessary for the rare and superior child as it is for the teeming average. Needless to say, the enrichment of the curriculum was the most difficult aspect of the problem. A start was made in this direction by bringing in outside teachers of special subjects. Through the coöperation of outside agencies, some excellent work in drawing, modeling, and music was done. The nature study and geography work were considerably broadened out. Projects leading to excursions into the neighborhood and beyond helped to enlarge the cultural equipment of the children. A much needed variety was secured by the introduction of athletics — swimming, basket-ball, other games and sports — and camping experience. Besides this there was time for a foreign language taken up by the conversation method. While the curriculum for these children has not been satisfactorily worked out for lack of continuous instruction and systematic resources, we felt that we had gained immeasurably in coördinating for the children a great variety of activities which had never before been made available through the agency of a public school.

A GEOGRAPHY PROJECT

The improvement of the course of study for the superior children did not consist alone in the addition of new subjects. An effort was made to vitalize the method of teaching. The geography work in the 5A–5B grade class for gifted children was made vital by the use of neighborhood material. The children of this community are all familiar with the outdoor markets, and some of their parents are engaged in vending fruits and vegetables in this way. The investigation of the food supply was chosen as the entering wedge for the study of the products and industries of the United States. In order to make the subject matter of geography a part of the child's experience, it is necessary for the teacher to translate the material of the text book into life terms and to induce personal experiencing on the part of the child. It was furthermore planned that the geography work and the English work should supplement each other.

The children constructed a general outline of their project and criticized each other's reports. They decided that their information about certain sections of the United States would be greatly increased if they could communicate with school children in those places. The class made a definite list of the main points which they wished to hear about, and then composed the letters to be sent to children in Los Angeles, Missoula, and other cities. These connections had been made through personal acquaintances of the teacher. Much useful material was also obtained by writing to the chambers of commerce of cities in which they were interested. From the district, the class worked through the study of foods to the study of other lands. The small size of the class facilitated the taking of trips, which furthermore provided a social training for the child, who had to learn to regulate his conduct for the good of his group.

ACHIEVEMENTS IN ACADEMIC WORK

We assumed that, given a five-hour school day, these children could do all the academic work required in half the time. The other two and a half hours could be used for other educational occupations. So far as the regulation academic subjects were concerned, we did not feel that it was necessary to prove that bright children would make a better record in less time than average ones. In the absence of any anxiety on this score, it did not seem desirable to overwhelm them with pedagogical tests. However, when such tests were occasionally given, the results have more than vindicated our assumption. Several surveys were made by psychologists and students from outside the school who were interested in this aspect of the experiment. Stenquist's study showed this very clearly; also a group of students from Teachers College gave three subject-matter tests in addition to the National Intelligence Test. From the detailed statistical results concerning each child, a simple table of averages for each class has been compiled.

Although all the children had had Terman Tests with accurate mental ages, for the sake of uniformity the mental ages in Table XXV were made from the scores of the National Intelligence Test given at the same time as the subject-matter tests. The Educational Age is made from the average of the results of the three pedagogical tests used; namely, Thorndike-

McCall Reading Test; Woody-McCall Arithmetic Test; Ayres Spelling Test.

TABLE XXV

SHOWING AVERAGE CHRONOLOGICAL AGE, AVERAGE MENTAL AGE, AND AVERAGE EDUCATIONAL AGE OF FIVE TERMAN CLASSES

Class	Number of Children	Average Chronological Age	Average Mental Age in Years and Months	Average Educational Age in Years and Months
3B	22	7–10	9–4	9–8
4B	26	8–11	10–10	11–4
5B	22	9–10	12–7	13–2
6B	23	10–6	16–2	13–10
7B	25	11–6	16–9	14–5

It will be seen from Table XXV, that in the third, fourth, and fifth grades, the average educational age is in advance of the mental age. This would indicate, in a general way, that these children were working up to their capacity along orthodox academic lines. The more detailed tables of the survey showed that this was not only true of the average, but almost without exception of each individual child. In the sixth and seventh school years the average educational age is progressively higher than that in the three lower grades. It does not show up so well in relation to the average mental age in these groups, probably because of the acknowledged fact that the National Intelligence Test is too easy for bright children of the upper grades and therefore gives an exaggerated estimate of their mental ages. As a whole, the survey proved conclusively, as similar surveys have proved, that bright children do better work and do it in less time than dull ones. Although this fact was an assumption of the experiment rather than something which it started out to prove, it was, nevertheless, a source of satisfaction to our parental pride to have disinterested judges present us with a favorable statistical report.

ENRICHMENT OF CURRICULUM

With the time saved by doing the academic work in half the usual school-day, manual work in a number of forms was introduced. Wood work, paper cutting and folding, clay modeling, drawing, and coloring found a place in the curriculum. Shop work and cooking were taught to boys and girls alike, and it was apparent that the boys liked to use the gas-stove and knitting needles and the girls liked to use the hammer and saw. We found that this was one of the simplest ways of enriching the curriculum and one often neglected by schools, — that of giving boys and girls alike access to all the tools and materials available. One group of young children constructed a doll's house and furnished it throughout with striking completeness and ingenuity. Another group combined manual work with geography by making in the sand box a plan of the school district. Each child located his own house in relation to the school and also placed settlement houses, docks, playgrounds, and libraries. As the school had unusual facilities for manual work, it was possible to increase the range of opportunity on this side of the child's school-life.

Here, however, we soon encountered the prejudices of parents who were accustomed to judge the child's school progress entirely by his success in the stereotyped formal studies. Parents too often interfere with the true education of their children by emphasizing and exaggerating the value of formal academic display. Children need genuine experience with life situations so that they can put some content into the words and expressions which are used. In reading, for instance, how often do children and even adults read the printed page without really penetrating the meaning of the printed matter!

The principal who encourages manual activities soon gets the complaint from a particularly solicitous parent that she does not want Henry to go to the shop or Bessie to learn cooking — she did not send Henry to school to become a carpenter, nor Bessie to become a cook. It is not parents alone who fail to see the educational value of manual activities; among boards of education and superintendents of schools the same view is current. The prestige of the three R's is so great that every other form of activity is consistently underrated. We found that the classes for bright children did their formal work much better when the curriculum included dancing, swimming, modeling, drawing, etc., than when it did not. It is the city child, especially from the congested neighborhoods, who lacks this form of expression outside of school and needs to have it supplied. Yet so slight is the appreciation among parents and school authorities of the value of physical and manual training, that the work of the school in this direction is regarded with suspicion and distrust.

All this rests on a fundamentally false conception of human worth. There is a common but erroneous belief that mentally gifted persons incline to be innately deficient in physical skills. Parents often regard complacently the manual deficiency of a bright child, believing that such clumsiness or ineffectuality is a sign of mental superiority. This attitude, expressed or unexpressed, is a direct encouragement to the bright child to be helpless with his hands and other physical instruments.

As a matter of fact, the psychologists are finding that the children who possess the highest grade of intelligence tend to be well-developed in body as well as in mind. This accords with the principle stated in a former chapter — that the correlation between all kinds of mental capacity is high, and that special abilities and disabilities are comparatively rare. The logical extension of this principle is that the correlation between mental and physical superiority is high. This is borne out by the physical examination of groups of bright children who were shown to be peculiarly free from physical deficiencies, just as the feeble-minded are peculiarly weighted down by a variety of physical defects and stigmata.

These scientific observations should be emphasized in order to counteract the belief, amounting almost to a superstition, that Nature does not usually endow a child with all-round superiority, but matches excellence with feebleness in the production of the talented individual. If a person is unusually clever, we expect him to be physically under-developed or morally eccentric. That this is often too true is not to be regarded as the logical result of a single talent bestowed at the expense of every other trait, but as the fruit of a false ideal of education and human worth. Gifted children do not have to be one-sided and queer if they are brought up in a favorable educational environment and are taught to value their muscles and instincts along with their purely intellectual gifts.

Poise, we are becoming more and more aware as the science of psychiatry moves from the laboratory out into life, is not so much a matter of control and restraint as it is a matter of freedom and fullness of expression. If we are to give these children of superior gifts a better education than the average, it must include a wider opportunity for each one to express freely all the many sides of his richly endowed self.

We associate the fine arts with high school and college years. Yet if the appreciation of beauty is not encouraged in the child, he will always be lacking in this phase of his development. The study of music and poetry was approached with the idea of developing the responsiveness of the child, not with the idea of discovering geniuses and prodigies. The aim was to encourage free and naïve expression in as many ways as possible. The children wrote verses and couplets and set them to music. They learned to interpret rhythms through the use of their muscles, to sing, and to play short melodies on the piano. The occasional child who was a monotone was soon singing along with the rest of the group.

The experiment was fortunate in having a teacher whose musical education had been along these lines. She was able to conduct a program with several Terman classes for a period of four years, developing a method which had not been previously tried in any public school. Her statement of results is therefore significant.[1] "Music lessons with children should not be taken seriously. The teacher as well as the pupils should derive pleasure from the lessons and feel that they are singing for fun. An air of freedom and unrestraint will develop surprising results in individual ability. The children I have worked with this year are second and third grade pupils, between seven and eight years of age. In the beginning they were awkward and self-conscious when asked for individual contributions, and generally lacking in muscular coördination. We immediately began the work in rhythm. The rhythmic work consists of skipping, hopping, jumping, swaying, clapping, etc., in time to the music, and accenting the first beat of each measure. After a short time the children were able to distinguish the rhythm of a selection as soon as it was played. The next step is ear training. Encourage listening! The children learned to write melodies on the staff after being told the starting note and position on the staff. I can honestly say that every child of the group can compose a short melody in rhythm at very short notice, write it on the staff, and play it on the piano. I have followed this plan of work with the aid of a bright class of children, but I am firmly convinced that the same program, with slight modifications, could be carried out with any class of normal children."

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[1] The work in music composition was conducted by Miss Sadie R. Kalman.

ADVANTAGES OF THE SPECIAL CLASS

When it is proposed that school children of extraordinary mental gifts should be handled with special care in special classes, the objection is sometimes raised that segregation would make these children conceited and priggish. The alternative is to allow them to remain in a class where habits of ennui, of under-effort, of day-dreaming fasten upon them; thus character fails to evolve in harmony with intelligence. "The danger with exceptionally bright children," says Terman, "is not over-pressure but under-pressure." On the other hand, if the child is placed with a group of others whose intelligence is equal to his own, he is no longer such an outstanding figure among his associates. It is unnecessary, as has been already pointed out, to distinguish these groups by a label of superiority. The class should not be regarded as a badge of honor, but as a place of work and sociability. It is not an infant hall of fame nor a national academy of prodigies which is needed, but a milieu and an opportunity which call for all the child has of ability and skill. The child who has a high intelligence quotient has, in that possession, the best antidote against conceit and priggishness. He has Nature's own remedy. A wise and tactful teacher will understand how to keep him in contact with problems which are hard enough to stretch his powers — a discipline which would be lacking in a class where the great majority of the children were far less gifted than himself.

Those in intimate contact with bright children soon learn that conceit is not the prevailing malady among them. The following comment from a teacher of a Terman class is an interesting report from actual experience. "One might expect that the gifted child would feel confident of his knowledge. But in my group of twenty-three children who are between the ages of eight and a half and ten and a half years, there are about ten who are far from self-assertive. This part of the class is shy, reluctant to recite before strangers, and slow to become companionable with the teacher. These people would perhaps never show up for what they really are where the teacher did not impress them as being human and sympathetic. It is incumbent upon the teacher to see, as the children grow older, that they are helped to lose this self-consciousness so that it shall not remain a continuous handicap to them as they go through life."

It might be expected that a gifted child would do better school work in a class of his peers than in a class of children less able than himself. According to the investigation referred to previously in this chapter, and made by a group of Columbia students under the direction of Professor William A. McCall, this appears to be actually the case. This survey showed that the academic achievements of the gifted children in our school were greater than those of children of equal ability in other schools, where they were scattered among the various classes.

The question is sometimes raised whether the classes from which the bright children have been removed do not pay too heavily for the loss. It is asked whether they do not become dull and uninteresting to the teacher and the other children. Quite aside from the consideration whether it is altogether fair to sacrifice the gifted child to make life stimulating and exciting for the rest of the class and the teacher, it is also doubtful whether the presence of the bright child has this happy effect. Is it really stimulating to the other children to have one or two members of the class answer all the questions and receive all the kudos? The superior child is forced into the position of "teacher's pet," an ancient institution which is invariably bad for the morale of the schoolroom. As for the teacher, everything depends on her professional attitude. The real teacher is more concerned to have around her the feel of growing things than to have at hand a star pupil who will show off for her before the supervisor and the chance visitor. As a matter of experience, we found that the teachers were more generous in regard to giving up their gifted pupils than were the heads and administrators. They were more willing to part from a bright child in order that he might have superior advantages, and they were also more faithful in the interest which they showed in following, sympathetically and proudly, the subsequent careers of these children, all the way up through the grades and through the high school later.

THE SUPERIOR CHILD WHO DOES INADEQUATE SCHOOL WORK

A far more serious problem for the teacher of bright children than the prevention of crude conceit is to understand and stimulate the superior child whose school progress is not commensurate with his intelligence rating. After the Terman classes had been assembled and put to work on a schedule adapted to their abilities, certain disappointing children began to be singled out here and there. In ordinary classes, they would not have disappointed anybody; probably they would have escaped all criticism as being better than the average. In the Terman class they became for the first time laggards. The value of the psychological test in connection with these children is apparent; when teachers and parents know that a child is the opposite of stupid, his comparative failure in school work presents a claim for intelligent analysis. Neither is it sufficient to call him lazy. Children are not lazy by preference and election, although parents and teachers often seem to think they are. The condition has a cause, and is amenable to influence and treatment up to the point where it becomes a neurotic symptom, and even after that. The bright child who does not work and play up to his capacity, needs to be located as early as possible, that the habit of ineffectiveness may not become fixed in him to his own ultimate loss and so that of society.

A special study[1] was made of ten children of superior mentality whose school marks were comparatively poor. The group was selected from the one hundred and twenty-five children in the Terman classes on the following bases:

(1) They had an IQ of 120 or more; (2) they had been reported by at least two teachers for their poor school work in comparison with their fellows; (3) all physical causes had supposedly been removed. In one respect these children were alike: they seemed to lack effort more than anything else. Their indifference was accompanied by symptoms of laziness, shyness, day-dreaming, sensitiveness to criticism, and hypochondriacal fears resulting in irregular school attendance. The children were given a series of intelligence tests, including learning tests and eight performance tests, and the psycho-neurotic questionnaire. The entire school history and the visiting teacher's study of home conditions were taken into consideration. The value of the study lay in the continuation of the analysis beyond the teacher's marks and the psychologist's tests, and in the elimination at the outset of possible confusing factors of average or less than average intellectual endowment. The visiting teacher's analysis of home conditions and influences was indispensable in such an inquiry, which was in large part concerned with mental habits originating in the home atmosphere. The outcome of each case was to reinforce very definitely the visiting teacher's knowledge of the child, and thus to give compass and chart for her farther guidance.

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[1] Van Alstyne, Dorothy. "Study of Ten Gifted Children Whose School Progress Was Unsatisfactory," *Journal of Educational Research*, September, 1923. Vol. VIII, p. 122.

Homer Beaverback, eleven years old, was a typical case of this group. He was a small, dark child with brown eyes, which had a trick of glancing off to one side in an odd way when in conversation — usually a one-sided one. He was the youngest of a family of much older brothers and sisters, all of whom were bright and successful. Much was expected of him by his family. It was, therefore, disappointing to them when he showed signs of dreamy inactivity, indifference to lessons and even to reading.

His IQ was one of the highest in the class. He measured 150 on three successive tests. Although he was rather a sensitive child, and perhaps subject to moods, the neurotic index did not indicate a large number of neurotic symptoms. His teacher reported him as lazy and working only in spurts. In the regular class he had made A's but in the Terman class he received only B's. Theoretically, children in the Terman classes should have A, but Homer was no more ambitious to live up to this theory than to gratify the hopes of his family. He did not easily express himself in symbols. His only show of interest was in a toy "erector" with which he tirelessly built and experimented. The limitations of mere intelligence unsupported by interest and emotional drive were strikingly exemplified in his case.

On the whole, the educational tests indicated that his learning ability in concrete things was up to what might be expected of him, but in abstract things he fell below the mark. He distinctly did not need to be prodded into learning; he had already had too much of this. As a result, his distrust in his own abilities was a constant drag on his efforts. He lacked initiative and aggressiveness; the impulse to do and not to do were always pitted one against the other. He needed to take his own steps in advance in order that his self-confidence might be built up and his social relations with his teacher and classmates normalized. Owing to the fact that he had been the youngest of the family and practically the only child among adults, he had never known the taste of independence or leadership. He was not the babyish type often produced by such a situation; he was rather apathetic than infantile. Action was paralyzed in him by the constant realization that he was never necessary or effective in the affairs of home.

The effort which the school made, through the psychiatrist and the visiting teacher, to help this boy with his difficulties in the pre-adolescent age, met with definite success in that his school work improved up to the standard expected of a Terman child. This gave grounds for hoping that his high school course might later be pursued with equal success, owing to the early amelioration of emotional strain by a serious attack from outside and inside on the habit of apathy.

SOME GIFTED CHILDREN

It cannot be too strongly emphasized that the problem type of boy represented by Homer Beaverback was not prominent in the Terman classes. On the contrary, these children were far from maladjusted, and matters of conduct had a way of taking care of themselves. The *esprit de corps* which existed among them was a great conserver of social relationships. Their social situation was peculiar in the school owing to segregation, the result of which was that the integrity of the group was preserved from year to year. The children came to know each other, their individual strengths and weaknesses, their talents and shortcomings. Because Sam was class president one year did not mean that he would be president the following year. He might be superseded by Arthur, whose popularity had increased in the meantime. Figure-head honors and scapegoat blame were not common, because the children knew each other too well.

The following comment made by one of the Terman teachers describes a characteristic of all these special classes: "The group as a unit is highly sociable. There is always something important to be said to a neighbor or else a question that must be answered. The class club must operate; club meetings must be held. The monthly party with cake and candy cannot be dispensed with. A little play and entertainment can be gotten up so easily without the teacher's aid. Having taught each of the psychologically graded groups of children, ranging from the dull backward pupils to those of the superior type, I appreciate this propensity as being the most highly developed here."

The histories, necessarily brief, of four superior children, are given below:

Max Fulleman was described by a teacher as "that boy who looks like Shelley." With his high forehead and curls, open collar and idealistic expression, his appearance suggested the poet. Max's taste, however, was practical rather than poetic.

Max was eleven years and five months of age at the time of his first test, and his IQ was 150. His age when retested was twelve years and ten months and his IQ 152. On the second examination he answered correctly all the questions on the scale. He graduated from the eighth grade at thirteen and from the high school at seventeen, his school record being uniformly good.

There was nothing in Max's family or environment to suggest that intelligence of an unusually high order was to be expected of him. His father and mother were born in Russia and neither had ever gone to school. The father was a garment worker, and the mother kept house for a large family. It was obvious that an unceasing struggle with poverty went on in the home. Two older sisters had graduated from public schools, attended commercial schools, and were employed in offices. A little sister of five was Max's especial pet. Her IQ was 100. There was also a baby in the family, too young to test.

The atmosphere of the home was coöperative and amiable, but not outstandingly ambitious. Neither father nor mother spoke English, although they had lived in New York six years; in the neighborhood they had no necessity and little opportunity to learn it. A symptomatic story was told by the boy. A popular Yiddish "colyumist" dropped in every evening to see Max's father, who helped him make jokes for the morrow. Perhaps a mute, inglorious humorist was hidden in Max's ancestry.

On leaving high school, the boy was obliged to find employment. He enrolled at Cooper Union to study engineering in the evening and looked for a position in one of the largest electrical works of the city. Here he was turned away, as the firm did not employ Jews. Max was obliged to hawk his 150 IQ around until he found a second-rate electrical establishment which was willing to employ him. By working during the day and studying in the evening, he is preparing himself under great difficulties for the career of an engineer.

Leah Landauer was the oldest of a family of four brothers and sisters, all of whom received ratings of superior intelligence on their psychological tests.

Leah's IQ was 149 on her first test, and 152 on her second. On the latter she passed every test except the eighteenth year vocabulary test. She graduated from the eighth grade at twelve years of age and from the high school at fifteen. At sixteen she is in her first year in college. Her brother, one year younger than herself, has made a similar record.

Leah's record as a student shows all-round success and she has considerable musical ability, reflected in her choice of a career. While still in the elementary school she wished to be either a lawyer or a violinist. If a lawyer, she intended to be one day a judge. In the high school she developed a great enthusiasm for mathematics and began to prepare herself to be a teacher of mathematics. She was first honor student on graduation from high school. In addition to all this achievement, she has marked gifts of leadership. As president of the student government organization of the high school, her precocious talents in this direction came to light.

Leah's father and mother came from Austria. The mother, a widow, has never attended school, but learned to read and write after coming to America at the age of seventeen. Her resourcefulness in maintaining her home and children on a small income is evidence of no small amount of ingenuity. The father died while the children were quite small, leaving the mother with no income whatsoever. He had been naturalized and the widow received a pension from the Child Welfare Board. This pension continues until the children are sixteen and, owing to the precocity of the two oldest, will see them through the first year of college. The scholarships given by the Junior Employment Service have enabled Leah and her brother to go on thus far. The stipends must soon cease, limiting the further education of these gifted children. This is doubtless why Leah, who has not a phantastic disposition, has decided to be a teacher of mathematics instead of studying law, ultimately to become a judge.

Aaron Lerner is a dark little fellow with such a solemn countenance that his teachers say he looks like a rabbi. His IQ is 158. At the age of six and a half, he was placed in a 1B Terman class, and two years later, aged eight and a half, he has reached the 5B Terman class.

Aaron reads books from the library continuously, and goes without fail to the Sunday afternoon children's hour at the Metropolitan Museum. His teacher describes him as creative and inventive but lacking in finish. On the artistic side, his work does not stand out. He has a mechanical bent, a strong sense of justice and great interest in the subject, and keen powers of observation. "He takes everything in," is very commonly said of him.

Aaron's father and mother were born and married in Russia. The father, having begun work at eleven, is eager that his children shall have the educational opportunity that he lacked. He is a carpenter, showing himself in conversation to be an unusually well-informed man. Both parents read and write Yiddish. The children all show precocious intelligence. The eldest, a boy, had graduated from high school and entered City College at the age of fifteen. The second, a girl, graduated with a Terman class at twelve and is now in high school. She has an IQ of 164. Aaron is the third child, and there is a still younger one, as yet untested.

Aaron has just been given a scholarship in an excellent private school where he has found his place easily in a group of children of an average age of nine and a half and an average IQ of 130, he being eight and a half with an IQ of 158. His prospects for higher education are unusually bright owing to the thrift and ambition of his father and the probable aid from the children older than himself.

Valerie Malakoff is a little blonde Russian girl eight years of age with an IQ of 146. She belongs to the small minority of non-Jewish Russians in the school. Soon after her sixth birthday she was tested for the youngest Terman class and entered our school.

Valerie has more than the usual amount of versatility which belongs to the high IQ type. Though shy and silent with grown-ups, she attracts their attention and interest almost too much for her own good. Her abilities are so striking that they tempt people to help her develop them. Her parents sent her to a Russian school from six to eight in the evening, so that she might learn the language thoroughly. Having acquired a repertoire of folk dances, she was enlisted for parties by grown-up friends. At the same time, the school took a hand by placing her in a class where her best was always expected. At the suggestion of the visiting teacher, the father undertook to curtail some of her activities.

This little girl has marked æsthetic aptitudes, combined with great intellectual accuracy. Her response to the music was similar to that in dancing, showing a rare quality of feeling for tone and rhythm. Asked to describe an ocean liner which her class had visited with the teacher, she was ready with the actual dimensions, in feet, of the great vessel. In contact with older people she appears unduly reserved, but she plays gayly enough with children of her own age.

Valerie's father and mother follow humble occupations. The father works in a laundry and the mother sews on coats. The father speaks English but the mother only Russian. There are but two children, Valerie and a sister two years older. The sister has not had a psychological test, but her school marks up through the 6B class are uniformly good. There is strong reason to suppose that the parents of these two little girls have more than common ability in spite of the unskilled employments they follow. But there appears to be little certainty that they will be able to provide the leisurely and prolonged period of training and education which a child of Valerie's equipment and temperament requires.

THE TEACHER OF GIFTED CHILDREN

The selection of a teacher for gifted children raises at once the question of qualifications. Quite obviously, her intelligence must be of the same superior grade as that of her pupils, although intellect is not the only consideration in her case.

Little as the fact is appreciated, the good teacher is an artist, and an artist is a worker whose performance can be accounted for but partially by intellect.

At first the teachers were eager to be put in charge of these classes as the impression prevailed that they would be easy to teach. In the ordinary class, these children absorb so little of the teacher's time and attention that they seem to carry themselves through the grades, as it were. The teacher has never the sense of putting her shoulder to the wheel where they are concerned. Unfortunately the child also has no sense of putting his shoulder to the wheel. However, when the children are grouped and the standard of performance is raised for them, the teacher's responsibility and effort are correspondingly enhanced. As this fact began to be understood, the applicants among the teachers for Terman classes fell off in number. So long as special qualifications were required, special inducements were looked for. The salaries offered should be at least as high as those paid to teachers of subnormal children and teachers of the blind, for whom a special license is required. This would be one way of attracting superior teachers for the work of teaching gifted children, although the more intangible evidences of appreciation are always needed. These are not the children on whom the school can afford to save money. If small classes and excellent teachers cost money, it would be hard to find a more legitimate use of public funds. Among the gifted children are the creative spirits of tomorrow to whom will fall the task of guiding the trend of civilization.

Since the dawn of the evolutionary theory, people have cherished the ideal of improving the race by breeding. But so far, the science of eugenics has been able to demonstrate the principles of heredity only through the medium of plants and the lower animals. Francis Galton suggested the possibility of producing more men of genius and few feeble-minded folk, by the deliberate application of the Darwinian theory to individual human life. This hope remains unfulfilled. The function of reproduction among human beings is complicated by psychological factors from which the other animals are free, and which represent a side of human nature as yet but dimly understood. We do know, however, that it is the most irrational aspect of human behavior, and least subject to utilitarian considerations of any kind.

A healthy emotional life does not necessarily accompany a good intellect; it is primarily attained through the daily and hourly adjustments of personal relationships. Adult conduct is the result of the child's emotional history, and a large part of the child's emotional history is made within the school, which must therefore shoulder its own share of responsibility for the outcome. It is a well-known fact that people who are happy, well-adjusted, and economically productive are more apt to marry and reproduce their kind than are the unhappy, ill-adjusted, and neurotic. Both types of temperament are possible with the same intellectual equipment. Although intelligence is the best instrument of social adjustment and emotional balance, the child is not often taught to use his brains in that way. It is a lesson which the gifted child should learn in order that he may not rest content with intellectual triumphs alone, at the same time that he habitually fails where the ordinary successes of social adaptability are concerned. To develop children gifted with high intelligence into male or female blue-stockings is a biological waste. While it may not be possible to produce men and women of genius by breeding them, it is possible to conserve those already born for a productive adult life and to educate them for the social adaptability which makes for eventual marriage. In this direction lies the possibility of a practical contribution to eugenics.

CHAPTER XI

VOCATIONAL COUNSELING[1]

The importance of carrying out the psychological classification in the first year of school has been repeatedly emphasized in this study. Nowhere is the need more apparent than in connection with vocational guidance. At present the problem is not sufficiently met by the eleventh-hour testing which usually takes place. Too often the psychological test is applied at the point where vocational counseling begins and in such haste that only group tests are possible. This common incidence is far from ideal and is altogether unnecessary in the school, however unavoidable it may be in the employment bureau.

If the children have been classified at the age of six, their subsequent school careers then furnish a significant basis for vocational advice. If, however, the psychological test has merely been superimposed upon six to eight years of a curriculum whose suitability or unsuitability has remained throughout all this time undetermined, the counselor is confronted by a topsy-turvy arrangement of school marks and psychological ratings which have no clarifying relation to each other. A child's ratings in "conduct," "proficiency," and "effort" mean practically nothing unless the teacher giving them has had some approximate measure of his ability. A series of B or D marks based on his relation to the other children in the same class, and not on any estimate of his individual capacity, are misleading by their seeming definiteness. We cannot depend altogether on such unrelated data to say whether this or that particular child should be advised to go to high school or not.

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[1] The technical material of this chapter was contributed by Cornelia Morgan Beall, Vocational Counselor of the Vocational Service for Juniors.

Yet, as the high school courses are now planned, there are children whom one cannot conscientiously advise to try them, since failure is practically sure to be the outcome. There are also children who, following the example of an industrial environment, are planning to go to work, but should be strongly urged, and assisted if necessary, to enter high school.

Between these two groups, comparatively easy to single out, are the great majority of school children for whom accurate and accumulated psychological data are needed, along with a series of achievement tests showing the true school progress of the child. In schools which have no thoroughgoing records of this kind, the last-minute psychological test is a great aid to the counselor. To disregard it is to neglect the best objective aid in understanding the individual. As long as classes are crowded, teachers' reports on lessons and character are less dependable for objective accuracy than the group tests previously described in this study. With all their limitations, these tests have demonstrated their practical value. As in the other uses to which they were experimentally put in our school, once we had tried them they became immediately indispensable in vocational guidance. But we strongly recommend that they be introduced at the very beginning of the child's school life and not just before he gets his working papers or proceeds to high school.

THE ADOLESCENT PROBLEM

The fact that such a small proportion of the adolescent population goes to school is a standing reproach to democracy.

The high school takes on a quality of exclusiveness which ill fits its services as an instrument of public education. Of all the pupils who enter high school courses, more than half leave within the first year.[1] This period of exodus follows immediately upon a similar period including the last two years of the elementary school course. After the 6B grade is passed, the registration drops heavily term by term. During the seventh and eighth years, the school loses nearly one-third of the children.[2] As we have pointed out in Chapter I, the proportion of eighth grade graduates who do not enter high school at all is about one-third of the total. This makes all together a period of three years during which fractions of the school registration varying from a fourth to a half of the total are successively broken off, leaving a still decreasing minority to continue onward in the secondary schools. It is the period in which the public school specializes in elimination.

The accusing statistics are familiar; the school collects them again and again and publishes them as statistics of children who have failed. They should rather be interpreted as statistical evidence that the school has failed, and culpably. Unfortunately, the eliminated child accepts the rôle of failure without much question, and enters his vocational life through this inauspicious commencement experience. His one comfort is that school and work have nothing in common; and, like an emigrant from Earth to Mars, he is able to take heart in a wholly new environment.

To stem the swift current of elimination, legislative measures have been adopted and correlated. Under the child labor law and the compulsory education law, the child's compulsory school life has been progressively though not greatly lengthened. The continuation school law prescribes a period during which he must continue his education after his working life has begun. At the present time, all graduates of elementary schools who are not yet fifteen, and children over fifteen who are not graduates, must attend continuation school up to the age of seventeen. The new continuation school law, to become effective in September, 1925, requires four to eight hours a week of day school up to the age of eighteen for all children not attending high school.

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[1] Van Denburg, Joseph K. *Causes of the Elimination of Students in Public Secondary Schools of New York City.* Teachers College, Columbia University, 1911. Page 11.

[2] Nifenecker, E. A. *Pupils' Progress through the Grades.* New York City Board of Education Publication, No. 19, 1922. Page 47.

THE JUNIOR HIGH SCHOOL

The junior high school attempts to span the two unstable years with which the elementary school closes and the tentative year with which the high school opens by organizing into a unit the seventh, eighth, and ninth school years. This period is spoiled for all concerned, including the survivors, by the host of departing guests who leave with a glad alacrity, not flattering to any school. The atmosphere of a class in which several big boys are sulking or actively kicking at the traces while they wait for the law to release their working papers, is certainly not one hundred per cent educational. Yet this is the prevailing atmosphere of many a classroom during these intermediate years.

The result is that the children frequently make less progress at this time than either before or after. The interlude is marked by an inferior quality of school success which is only comparable to that of the first school year. It is a well-known fact that about one-fourth of the first grade children fail to make their promotions. If there were any demand for six-year-old labor and it were legally possible, there is no doubt that most of these failures would willingly retire forever from the lists at this point. They have had enough of school life already. Since the traditional educational process with the first graders is admittedly so unsuccessful, we have suggested that the better plan would be to study the child as the first step towards teaching him.

A similar situation appears to arise again during the problematical years which form the junior high school period. Here again the school success of the children is at its lowest ebb. This would seem to indicate that the teaching process might here again be subordinated to the study of the individual. What actually happens now is that the teaching process virtually pauses throughout the eighth year, because this year is practically given over to review. But prognosis is what the child needs at this point rather than review. The school is concerned with his future just as it was concerned with the future of the six-year-old. The utmost flexibility of attitude and treatment is needed for the adolescent as it was for the young child. The curriculum itself should, in adolescent and pre-adolescent years, function as a test or trial and not as a technique or preparatory training.

"The ideal junior high school," says Van Denburg, "is, therefore, a finding and a sorting school where pupils may, through actual experience, be led to make a more rational selection of their senior high school work, or their occupation in the world of industry, than would be otherwise possible." [1]

The fact is that every child should continue his education in all-day schools until the age of eighteen, no matter what his IQ is. The practice of the public school to disinherit the dull child and repudiate responsibility for him as non-educational material is difficult to live down. As the technical high schools have sprung into existence, they have imitated the exclusive attitude of the original academic institution. "We want bright boys," says the principal of the technical school, jealous for his institution, "because this too is a high school." Notwithstanding the more diversified curriculum and vocational courses of the newer secondary schools, the child of less than average intelligence is still begrudged admittance at all their doors. The principal of a certain technical high school in New York City accepts as pupils boys with IQ ratings ranging anywhere up and down the scale. He claims, and justifies his claim, that he can provide suitable and interesting occupations for the dullest boys who come to him. Among his fellow schoolmen, the comment runs, "That man Weaver is a funny principal. Why, he'd let monkeys come to school." Such comment indicates how far in practice public education still lingers behind its theoretical responsibilities as an agent of free compulsory universal education.

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[1] Van Denburg, Joseph K. *The Junior High School Idea.* Henry Holt, New York, 1922. Page 16.

From the data given in the first chapter of this study, it appears that our experimental school was filled with children whose parents were in industrial occupations. While a majority of our eighth grade graduates went to high school, they were pioneering in paths unfamiliar to their foreign-born parents. Just what proportion of them succumbed to the heavy mortality of the first high school year, we have no way of knowing. But doubtless the 16 per cent who went immediately to work from the eighth grade was considerably augmented one year later by those who left high school. Vocational advice was, therefore, greatly needed, and the vocational counselor was a valuable addition to the staff. Our school became one of the first in the city to employ a vocational counselor.

VOCATIONAL GUIDANCE

With the permission of the Department of Education, the Vocational Service for Juniors initiated its work in nine public schools. This again exemplifies the method of coöperation between social work and public education, out of which a new function of the public school has gradually come into existence. The aim of the experiment is defined in a recent report as follows:

> Briefly stated, the aim of vocational guidance is to arouse and stimulate the interest of boys and girls in the vocation they hope ultimately to choose; to give them a picture of the world's work, the conditions under which it is done and the qualifications needed to do it; and to help them make an intelligent choice of their next step in education or training, or, if necessary, of work, based on this glimpse into the world's work and on a careful analysis of their own interests, powers, and limitations. . . . As far as the students and their parents are concerned, the guidance is an integral part of the schools, the group talks, individual interviews, etc., being carried on during the school day.[1]

The Vocational Service for Juniors includes several activities which supplement each other. The counselor becomes a part of the regular staff of the school and gives individual advice as well as class instruction. The scholarship department of the Vocational Service provides for the expenses in day school of children who would otherwise be forced to go to work. Unfortunately, this valuable service is limited by the resources of the organization, and many promising children remain unprovided for. To aid further the process of vocational adjustment, the society has employment bureaus which place workers under eighteen years of age in investigated positions. The Vocational Service, in short, approaches the child with assistance at the great divide between school and work, and helps him to seek out the narrow pass best adapted for his individual use. As schools now are, and work now is, the integration between the two is not easy.

Let it be noted that the Vocational Service did not invent vocational counseling; it only undertook to organize such a service on a responsible basis. In response to the needs of bewildered children, advice was being dispensed on every hand and much well-intentioned confusion was being spread around. Teachers who knew little about the specific courses in the high school and less about the occupations in the economic world, were the only counselors to whom the children could turn. Principals were forced to advise inquiring children either for or against trying the high school, and this on insufficient data concerning their individual abilities. The consequence was that boys who wanted to be bookkeepers were arriving in the classical high schools, and others who had professional ambitions were entering high school unaware that college lay beyond, and beyond that still the necessary technical training. Tragedies of ambition as poignant as that of Jude the Obscure were probably enacted over and over as the result of stereotyped advice which had no relation to the actual abilities of the individual.

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[1] Pollitzer, Alice K. *A Brief Description of the Work of the Vocational Service for Juniors, New York.* Junior Division, United States Employment Service, Washington. Field Work Series, No. 1. January, 1923. Page 2.

The vocational counselor had to find her way in the beginning through a maze. The important thing was to work always constructively, positively, and for the conservation of the individual. In no case was any child advised negatively or told he could not do well in this course or that sort of work. He was told that it might be hard for him, and that, if he found this later to be so, he was to return for further advice regarding a change of course. When a disagreement arose between the counselor and the parent or between the child's choice and the counselor's opinion, the argument stressed by the counselor was the probability of greater success in some other direction rather than the likelihood of failure in what the child wanted to attempt. Although the advice was based on all the scientific data obtainable, and the aim of the adviser was to adopt an impersonal attitude, the child was not allowed to feel any lack of interest in his progress.

Starting from these considerations, the pupils were interviewed individually and advised regarding further education or opportunities to work. The counselor strove to observe faithfully the following general principles:

To keep children in school as long as possible.

To keep them in the most difficult grade of school work of which they are capable.

To keep them in the general course as long as possible and thus delay choice of training for specific occupations until as late a date as possible.

To give advice on the basis of interest and intelligence and school history. When the training sought is commercial or technical, the child's marks in related special subjects are also taken into consideration.

TEACHING OCCUPATIONAL MATERIAL

When it came to teaching the children about the occupational world which surrounds the school world, it was found practical to teach them in groups. Our school children were economically precocious, so far as interest was concerned. They came from homes in which talk of work and wages was familiar every-day talk. Economic subjects enlisted their attention and lessons on this theme were always lively. And as they realized the meaning of *work*, these boys also realized the meaning of *money;* both work and money entered into their experience in a far more vital way than if they had grown up under more sheltered economic conditions. What they did not have, however, was concrete information about the educational and vocational possibilities from their own standpoint. It was decided to inject occupational material directly into the curriculum.

We began with the 7A class, although vocational guidance proper was scheduled to begin in 7B. It seemed wise to have the teachers cover some preliminary ground in order to assist the vocational counseling which, like most experimental work, was sadly understaffed. However, one counselor for 300 children was good fortune by comparison with most schools, which had none. Moreover, volunteer workers in this field were not available as in the work of psychological testing, where the technical assistance of university students was readily obtainable. We had to find a way, within the school organization, to supplement and support the vocational counselor's work in order to increase its efficiency.

The life-career classes became a regular feature of the 7A curriculum. A place was discovered where the children went over the geography of the United States for the third time. Here was the chance to put in some economic teaching, it was agreed. The chairman of the geography department worked up the course by the simple method of classifying occupations under the fourfold division of food, clothing, shelter, and leisure. Material was gathered from industrial geographies, newspaper almanacs, and surveys made by the Vocational Service. About half the time of the course was given to the occupations of the country, and the other half to the occupations of New York City. The ten leading occupations of the city were especially discussed and some conception of wages, hours, and prospects was worked out with the class.

In selecting the library books for the seventh and eighth years, the vocational interests of the children were borne in mind. Among the biographies included were those of Trudeau, Grenfell, Roosevelt, and John Muir. Several books about occupations were recommended which proved attractive to the boys. *Pick, Shovel, and Pluck; Careers of Danger and Daring;* and *Occupations* gave them some definite notions about work on which the more specific teaching of the vocational counselor was later to build.

In the 7B grade class, the teaching of occupational material was taken over by the vocational counselor. One hour a week was assigned from the English schedule for the purpose, and the subject was now correlated with English as it had formerly been with geography. The difficulty, in general, of introducing such lessons into the schools, is to find people who have the technique of teaching and who combine with it the necessary background of industrial facts regarding the history and the existing requirements of the occupational field. But the material is intensely interesting to the pupils; and, even though the counselor is not an experienced teacher, the subject does not call for any unusual resources of pedagogical technique in order to keep the class awake. All the children were eager to relate the industrial experiences of their families and friends and to ask questions of their own.

CONTENT AND METHOD OF VOCATIONAL COURSES

The content of the courses given to the 7B grade is indicated by the following outline: The first four lessons were general in character; they attempted to show: (1) The change which has taken place in industry from the primitive and household type of work to the factory system, through the introduction of machinery and mass-production; the high specialization in industry; and the great number of possible occupations in the world. (2) The danger of drifting into blind alley jobs unless one has a specific objective; a discussion of the blind alley job, its monotony, danger of unemployment, low pay, lack of advancement or opportunity to acquire skill. (3) The elements that enter into an intelligent choice of work: the actual task to be considered; next its economic conditions, hours, wages, and opportunity for advancement. Is it a growing or a contracting field? Is it seasonal or steady? What are the qualifications necessary for success? The analysis of oneself to ascertain whether one is possessed of the necessary qualities, physical and mental. (4) The necessary preparation for the work; and, finally, the question, Is it work which is of service to the community?

The next lessons described in some detail the broad divisions of the working world: (1) Professional work, general considerations, qualifications, and the type of temperament that succeeds; the amount of intelligence and hard study necessary, the length and kind of preparation required. (2) Commercial work, which is treated in a similar way. (3) Technical work, which is divided into the discussions of technical professions and skilled trade work, and the necessary considerations of these types of work. These lessons were illustrated by specific studies of actual occupations: the professional lesson by the doctor and the teacher; the commercial lesson by the bookkeeper, salesman, and department store worker; the technical lesson by the engineer; the skilled trade work by the electrician and the printer. Some time was spent on unskilled work and its dangers. The final lessons were a discussion of the various educational opportunities of New York City and what they lead to.

The method used in the presentation of the material was that of question and answer; the experience of the children was tapped and they were encouraged to take the initiative in discussion. The outlines were not rigidly adhered to but were modified as the lessons progressed according to the bent of the classes, although in the main the important practical points were covered. The children were intensely interested in the lessons about how work was once done and how it is now done. It was surprising to see how well they grasped the difference, as it was pictured to them, between the days of the Pilgrim Fathers when each household made for itself all that it needed, and the present time when it takes four thousand different kinds of workers to supply us with food, clothes, shelter, education, and recreation. Against this background of differences it was possible to develop with them the idea of work that is socially serviceable and that which is wasteful; the difference, for instance, between learning a process like electric wiring and being a door lackey in a Fifth Avenue shop.

The second talk on blind alley jobs seemed to bring out all the romantic and phantastic longings that the three R's suppress. It is hard to convince children that opportunities in such jobs are few when they firmly believe that a newsboy is likely at any moment to pick up a diamond ring, and by honestly returning it to its owner, obtain a position for life with a large salary and little work. As long as youth is given to such fairy-tale views of life, the counselor must bring to them a sympathetic comprehension and a tactful substitution of the facts of reality. There is a tendency in each young human being to believe that something unique and wonderful is waiting especially for him, something different from the humdrum fate awaiting all the others, which makes all realistic planning an uncongenial task. The fairy godmother will certainly drop in at the last instant with unexpected gifts, or father Wotan will place in one's hands at the crucial moment the sword invincible. Why plan for the same every-day fate as all the rest of the ordinary unfavored mortals?

These adolescent dreams are not an absolute hindrance to the counselor who knows how to use them tactfully. They are, after all, the symptoms of an adventurous spirit in which every career, however humdrum and matter-of-fact it may seem to others, should be viewed by the person whose career it is going to be.

When the plan of giving the group talks was first adopted, the difficulty of presenting the material to unclassified children was experienced. At that time, the distribution of the pupils throughout the grade on the basis of intelligence tests, had not reached the seventh and eighth years. The necessity of such a classification as a basis for vocational discussions, was immediately discovered. There is probably little difference of opinion in regard to the tendency of children of similar intelligence to select similar occupations. In the graded classes all the types of occupations were presented to all the types of children, but the emphasis was laid upon the occupations which most interested each particular group. It was very natural that the little bright-eyed high IQ should stage a mock trial and enact the part of the lawyer with more avidity than the big over-age boy whose thoughts were centered on becoming a printer's apprentice next month.

Even the vocational counselor must guard against too rosy a view, which would see every child destined for distinction in a professional career. Through experience with a number of classes, the counselor becomes accustomed to the fact that the interests of a group very soon find their level in the course of a free discussion. The tendency of the new and inexperienced adviser is to urge children into occupations too difficult for success. It is necessary, as time goes on, not to swing too much to the other extreme, but to continue to present experimentally to all the group, all the occupations on the calendar and to allow them to work out, on the basis of their own interests, those which tie up with their ideals, abilities, and necessities.

The effect of the classification on the group work was suggestive in several ways. So good was the response of the bright classes that, from the point of view of giving definite information, leading to choice, it was possible to dispense with the individual interview altogether.

One of the rapid advancement classes made an experiment in method. The class was divided into committees of four pupils. Each committee selected the occupation they wanted particularly to study. An outline was given them and books were provided, after which the committee went ahead without further directions. A report was made to the class on the occupation in the form of a socialized recitation. All questions of dispute were referred to the counselor as referee; and when any statement made by a member of the committee was criticized by the class, the committee was requested to consult their books of reference and settle the question then and there.

This material was most stimulating to the pupils, and therefore capable of extended use, in a variety of ways. Its influence in modifying the curriculum may be far-reaching, so closely is it connected with many school subjects, with economics, and the whole social environment. It may be used as material for debates, essays, and dramatic presentations. It cannot fail to appeal to children who are faced with the necessity of choosing for or against wage-earning and who hear the subject of work, its conditions, its hardships, and its rewards, constantly under discussion in their homes.

VOCATIONAL PROBLEM OF THE DULL CHILD

The greatest problem of the counselor is the dull normal child. Usually these pupils have lost two or three grades of work by failing to pass, because the academic type of work offers them no interest or stimulus. If the school is psychologically graded as it should be, they are in groups, and presumably have progressed at the same rate as their classmates. But after we have urged them to stay in school until graduation, what can we offer them? Only one of the three main junior high school courses, — general, technical, or commercial, whose content is the same as that which failed to interest them in the elementary school, and which have in addition more exacting requirements from the point of view of accomplishment. We have pointed out that the trade schools reject all pupils who do not graduate from the elementary school. Furthermore, many of these dull normal children have little manual dexterity and little mechanical skill.

The technique for giving occupational material to dull normal children has yet to be developed. The ordinary academic, theoretical method of presentation, used with success in the bright classes, has been no more successful with the dull normal children than was the presentation of the three R's by the same method. The counselor must, therefore, call upon the skillful teacher for help in organizing occupational material for presentation to slow children. Since we have no high school or trade school courses that appeal to or will accept this type of pupil, it is difficult to know how to focus the subject to any practical end. How to use the lessons for the stimulation of these pupils in their ordinary academic work must be the task of some ingenious pedagogue. It is noticeable that dull normal pupils are frequently able to contribute specific facts about wages, hours, and conditions of labor more readily than the younger bright pupil, possibly because many of them have been at work during vacations and after school, and the subject has more reality for them.

The junior high school fails, as did the elementary school, to provide for these pupils. They should be offered the opportunity to leave the academic type of education in 7A, the grade in which drop-outs are most frequent. At this point, alternative courses should be introduced. For instance, the school should offer a simple commercial course which would prepare them for routine clerical work of the kind so extensively demanded in offices, or a course in selling which would help them in the keeping of a small shop, a career to which many of them are destined. For the dull normal child with manual skill, whom the trade school now rejects because he cannot complete the elementary academic school, the school ought to provide a modified trade course, which would serve the purpose of finding out what work in the skilled or semi-skilled trades he can do, and which would prepare him for such work. Thus he might be saved the year and a half, or two years, which he loses while stumbling along in the ordinary curriculum and accumulating an unhealthy sense of failure.

If the course of study were sufficiently differentiated in the early grades, the chances of his surviving and enrolling in such special courses as have here been suggested would be all the better. A modified curriculum and some variety in hand work should be provided for the child from the moment he enters the first grade. The school should honestly confess that it does not know as yet what a six-year-old child can do and likes to do, and should devote a year or two to the task of finding out. The work of the young children in the shop was a revelation to the teachers as well as to everyone who saw it. They were given regular tools, somewhat smaller in size, real work benches of suitable height, and small handlooms, and they learned with surprising rapidity what to do with them. On the whole they seemed to be better adapted to, and much happier in, the shop work than they had been previously in the classroom. We assume that the psychological classification has been carried out and that the children then progress through school without the annual human sacrifice known as non-promotion. The brightest children are given the same amount of shop work as the others; and the dull normal children are given a curriculum which makes successful school achievement a possible experience for them. When they reach the years of the junior high school, the work of vocational guidance can be taken up on the basis of real educational guidance and carried through with an appreciation of individual differences to which we are still, in spite of our best efforts, more or less blind.

The relation of the vocational counselor to the disciplinary case may, and often is, extremely helpful, but it is not fundamental. The school which allows a child to become the object of a reformatory technique by the time he reaches the 7A grade is primarily responsible. The child who wants to go to work at his earliest opportunity is obviously in most cases not interested in school. It means nothing to him and is merely an obstacle between him and his goal, which is to get a job and earn some money. The determination of his parents to send him to work is often not so much for economic reasons as a recognition of the fact that he is not succeeding in school, that he is over-age, that he does not want to go to the high school, and that — most decisive factor of all — he is *too big* to stay in school. The ranks of the truants and disciplinary cases of all kinds are recruited from the dull normal children. We have already noted the lack of provision for these pupils and suggested tentative changes in the curriculum for them. If such changes were made we might hope to see a diminution of truancy and delinquency.

To justify this belief there are records of the cases of several boys who had been pushed over the edge in the academic struggle and who came back again by way of individual treatment and adapted work. One of these boys was transferred from a traditional academic school from which he could bring not a solitary good recommendation. He not only became a good mechanical draftsman, but finished the work of the 9B grade before leaving. Naturally he had no trouble in finding a job, which he supplemented by teaching mechanical drawing in the evening. Another boy came directly from a disciplinary school and found his place in the machine shop. He finished the elementary school course and incidently drew plans and built a gasoline engine which functioned perfectly. The opportunity to be considered as an individual and to do creative work on any plane at all rarely fails to bring a wholesome response.

CONTACTS WITH PARENTS

Dealing as we were forced to do, with grades whose register ran from 275 to 300 pupils, the counselor had not the time to establish contacts with the parents. The final decision often rests with the parent, yet it was possible to talk with only a small number where the cases were most urgent. Most of the erroneous impressions which the children had in regard to vocations either came from the parents or were shared by them. In a neighborhood of foreign-born people, speaking little or no English, an adequate acquaintance with modern industry was not to be expected. Hence, the school must reach out to inform these parents in regard to economic possibilities for their children. Under ideal circumstances, the principal and teachers would see and know them all; the atmosphere of the school would encourage them to come frequently and talk with teachers and counselors about their plans for their children. But neither school nor parents have the time necessary for this. It was customary for the parents to meet with the principal once during the term to discuss various matters regarding school work, graduation, etc. This meeting was largely taken up with a discussion of the place of vocational guidance in the school, a description of the different high school and trade school courses, and an explanation of the reasons for keeping children in school as long as possible.

Several small pamphlets addressed to parents and telling of the requirements of business and industrial occupations were prepared. They emphasized the necessity of education for work, if success is to follow, and stressed the advantage of skill and training which must often be acquired at a low wage over a high initial wage in a job where no skill is gained. They urged upon parents the necessity of getting information about modern occupations on the one hand, and finding out about the individual abilities of their children on the other hand. These leaflets also gave, in a condensed form, information about the different courses available in the senior high schools and the trade schools. They brought to the attention of the parents the fact that there was a vocational counselor in the school who would give them information and advice. While the material in these pamphlets might need to be changed in many ways from time to time, they were certainly a step in the right direction. The series of four was translated into Yiddish and Italian for the convenience of the two largest groups of our non-English-speaking parents.

COUNSELING THE INDIVIDUAL

In the long run, the test of the vocational counselor's work is its value to the individual. The boy of fourteen, faced with a choice of an academic, commercial, or technical course — a salesmanship, textile, or trade school course — may well blunder and make mistakes, costly in loss of time and ambition. The boy who must go to work is often in need of advice as to his choice of possible jobs and in need of help in his selection of evening school courses. Still another boy who has not intended to continue in day school may be persuaded to do so when certain courses are brought to his attention of which he has never heard but which, nevertheless, may help to fit him for what he intends to do. Each boy presents a special problem, no matter how many elements it may have in common with those of other boys in the same situation. This fact must be reflected in the professional attitude and method of the counselor, which is fundamentally different from that of the class teacher. Anyone who deals with individuals has a different technique from one who deals with groups.

This does not mean that the counselor did not need all the accurate objective facts about the individual that were obtainable. Her resources of this nature were as follows:

1. *The questionnaire.* — This paper, filled out by each pupil, recorded his family background and home conditions, his ambitions and interests, and his reactions to school life. For instance, the mere fact of whether he was the oldest or the youngest child in the family had an important bearing on his prospects for continuing in school.

2. *His past school record.* — This record showed his attendance, conduct, and scholarship marks; from it could be determined any special proficiency or deficiency in subjects, the number of grades skipped or repeated, and the amount and the quality of his shop work.

3. *The teacher's estimate.* — The class teacher was consulted regarding the pupil's ability and possible success in his choice of future work. Except with outstanding children, the overburdened teacher of the departmental system cannot make the careful observation which would give her judgment any decisive weight. She prefers, indeed, to leave this responsibility to the counselor. Teachers of special subjects were often able to throw light on a child's special ability, and coöperation from outside teachers of music and drawing and modeling was enlisted on behalf of a few pupils who were planning to become musicians, artists, or sculptors.

4. *The visiting teacher's report.* — In cases where the visiting teacher had dealt with a child, an intimate picture of his deficiencies or maladjustments was obtainable. Her report on the home and family conditions was of great help. This was also the principal source from which reliable character data could be obtained.

5. *The psychological tests.* — Every child was given a group test for general intelligence. The results of the group test were supplemented in many instances, and always in the case of problematical children, by the results of an individual test.

6. *The counselor's impressions.* — These impressions were noted in writing during the interview.

INTELLIGENCE OF HIGH SCHOOL CHILDREN

The method of using the psychological data needs some special explanation here since it represents the newest and least familiar resource on the list. Recommendations for educational guidance were based on a survey made upon groups of students in typical high school courses in New York City. The results of this survey are recapitulated in Table XXVI.[1]

TABLE XXVI

SHOWING INTELLIGENCE RATINGS OF GRADUATING CLASSES OF VARIOUS HIGH SCHOOL COURSES

HIGH SCHOOL COURSE	NUMBER OF STUDENTS	AVERAGE MENTAL AGE IN YEARS AND MONTHS	AVERAGE IQ	MIDDLE 50% RANGE OF IQ'S	PER CENT ABOVE AVERAGE (IQ 110)	PER CENT BELOW AVERAGE (IQ – 90)
Academic	151	18–4	114.5	110–118	79.4	.66
Commercial	102	17–5	109.4	103–114	45.0	2.90
Technical	100	17–5	108.9	102–114	44.4	2.00
Industrial Arts . .	34	16–6	103.1	97–108	20.5	8.80
Dressmaking	51	15.7	97.4	91–102	11.7	21.50

The students whose tests are recapitulated in Table XXVI were all in the graduating classes of their respective courses;

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[1] Clark, Ruth Swan, Ph.D. "A Glimpse of High School Courses as Measured by the Otis Test," *Journal of Applied Psychology*, June, 1922. Page 185.

The Otis Group Intelligence Test, on which Table XXVI is based, has given satisfactory results with high school and eighth grade pupils. The National Intelligence Group Test, to which extensive reference was made in previous chapters, is very good between grades 4 and 7. Below grade 4, individual Terman Tests should always be given.

that is, the academic and technical groups were eighth term students, and the commercial, industrial arts, and dressmaking groups were sixth term students. They therefore represented the survivors and presumably those best adapted to the course in which they had persisted to its scheduled end.

A comparison of the intelligence ratings of these different groups indicates the following conclusions: The high school academic course adapts itself to students with intelligence above the average for those of their age. The special courses, such as the commercial, the technical, the industrial arts, and the dressmaking require general intelligence of an average and high average degree. None of these courses, including those which have vocational training for their purpose, are adapting their work to students of a general intelligence below the average. Such a student would have but one chance in 150 to graduate from an academic course, but three times as many chances to graduate from a technical course, and five times as many chances to graduate from a commercial course. It is evident that the low average and the dull normal child have slender prospects for survival. Indeed, their chances of merely entering such courses are little better, as is shown by the survey of first term students reported in the same study. Among the first term students the range of intelligence was average or high average for all the special courses.

This picture of the mental status of the high school student has its definite implications for the vocational adviser. But since she is always dealing with the individual, she has always to bear in mind that any particular child may be able, by virtue of his personality traits, to become one of that small fraction of persons who accomplish something in spite of the fact that they have no statistical right to do so.

The goal in advising the individual is to find the most difficult thing that he can undertake without becoming discouraged, and therefore futile, in his undertaking. There are humane but mistaken critics of the psychological tests who fear that the vocational counselor may be induced by their results to direct too many children into inferior occupations. So far as our observation is concerned, there is no ground for such a bogey. It is only natural that the counselor should stimulate the individual child to want to do more rather than to do less. The aim is to set him at work in a course or at an occupational task where his possibilities of success are sufficient to give reasonable ground for hoping that he may fully realize them.

As we have pointed out in an earlier chapter, it is not inferior intelligence which makes people feel inferior. On the contrary, careers which are often wrecked by inferiority feelings are those of individuals who have a high degree of intelligence. The blacksmith is not necessarily unhappy because he is not a judge; the gas man is not necessarily downhearted because he is not a doctor. It is the inward sense of failure and ineffectiveness which wrecks human lives and which can be avoided by any and every degree of intelligence if family and school influences are shaped to that end. The dull normal boy can be just as serene about his inability to do bank discount, and should be, as you can be about your inability to write as good a play as *Hamlet*. But if someone were at your elbow day by day urging you to write a masterpiece and marking you down as a failure every week and month in which you did not perform the task, it would inevitably and completely break down your personal morale. The state of demoralization which is produced in the dull child by the goad of the curriculum is of this gratuitous nature. The psychological test introduces, for the first time, an authoritative element in the school situation which tends to do away with the mischievous prodding which enfeebles the character of a child without improving his scholarship.

THE PLACE OF THE VOCATIONAL TEST

The question is sometimes raised, whether the general intelligence test which gives a basis for educational guidance is equally suitable as a basis for vocational guidance. In our school, only a limited use was made of special ability tests. The only experiments attempted in this direction were the application of the Stenquist Mechanical Test and the Thurston Clerical Test. These were both given to the junior high school pupils.

The Stenquist Mechanical Test aims to test mechanical ability as a special ability without regard to general intelligence; but as it comes out, the pupils of high IQ passed it better than any of the others, and so on throughout the range of IQ's. This bore out the idea set forth in an earlier chapter of this study, that the mechanical and intellectual abilities of children tend to have a high degree of correlation. It is not practical to classify a child as of a mechanical or an intellectual type, although it is possible that his interest may be more decidedly placed on the one type of activity than on the other. The Stenquist Mechanical Test is not so much a measure of interest as a measure of ability. It may profitably be added to the general intelligence test in the junior high school, but not with any over-confident expectation that it will differentiate reliably between the future engineer and the future professor of philosophy.

The Thurstone Clerical Test aims to test speed and accuracy in handling clerical work and includes some common sense questions. It requires an hour for giving, and it is rather hard even for high school pupils. In fact, it is almost an adult test. Its advantages for the employer are clear, since any number of persons may take it at the same time and it requires little supervision. In the junior high school, it does not give its best results, as the pupils are still too immature to possess the special skill involved.

In this connection it may be noted that tests for special ability in business and industry have little value for the educator and scarcely more for the vocational counselor, because they aim to test training in addition to aptitude for training. For this reason, the development and application of such tests are the affair of business and industry rather than of education. Research along these lines should be financed by business and industrial enterprise. As a matter of fact, such research is being actively carried on by a series of well-staffed institutes. Successful vocational tests enable the employer to save money and have, from this point of view, a great economic value. The school, however, has no interest in specializing the child; its real business is to protect him against the premature specialization which modern economic life threatens more and more to force upon him. The development of trade tests is a special department of psychology which finds its most legitimate and effective application in the problem of the adult worker. Special trade tests have little relation to the school child of any age.

In the history of psychological testing, the vocational test preceded the general intelligence test by a number of years. In the laboratories of the experimental psychologists, a series of psycho-physical reactions were studied and standardized, with the aim that special abilities for certain occupations might by this means be detected. But these efforts found no legitimate application in the field of education. The first psychological norms of which education could make any use were based on the age-level as first standardized by Binet.

From this time on, the development of tests for general intelligence has made far greater progress than that of special vocational tests, of which, up to that time, such high hopes had been entertained. It is noteworthy that the army, when confronted by the necessity of employing 100,000 men efficiently, fell back primarily on intelligence tests for guidance. By comparison, very little work was done with the vocational tests. Adults though they were, and coming as they did from every variety of occupation, the men were directed in their tasks chiefly according to the broad classifications of a general intelligence scale.

The problem of testing for special aptitudes remains a problem we have scarcely begun to conquer. The influence of emotional interest on the development of special ability is something for which, as yet, no adequate measure has been devised. Within the school this influence is sufficiently apparent in the child's success or lack of success in school subjects. This suggests that it may be an equally important element in the vocational career of the adult. In any case, the emotional trend should always receive consideration as a possible factor in superior skill or talent of any kind.

THE CURRICULUM AS A VOCATIONAL TEST

In the present stage of educational developments, perhaps the best kind of vocational testing lies in the use of the junior high school curriculum for that purpose. The differentiation in courses should serve that end. In the 7B grade, the pupil must choose one of the following courses: the academic, the technical, the commercial, or sometimes the industrial course. The original purpose and ideal of the junior high school was that the seventh, eighth, and ninth years were to be a try-out period, offering a variety of courses with which the child might experiment in an effort to find himself. The actual result in practice has been to force his decision at the end of the seventh year and to make it difficult, even in a liberal school, because of administrative routine, for the pupil to shift from one course to another.

Means should be found to break up this rigidity; the organization should be elastic enough to permit the necessary transfers to be made with the principal's consent. In other words, the child of twelve to fourteen should not choose any particular course, but should be allowed to experiment with all of them. If no other way can be devised to make this practical, it should be arranged that all the children should take all the courses somewhere between 6A and 9B. This would help to do away with the temptation to regard the junior high school as a place where trade training may properly be given. It is essential that general education should continue up through the 9B grade and on through the continuation classes, and that even the concrete occupational material introduced during these years should have an educational emphasis.

To require the mass of children to make a vocational choice and stick to it is to force an adult attitude prematurely upon the adolescent. It is the familiar error into which all education seems so prone to fall: the effort to hasten the process of growth, to short-cut the individual's development in order to serve some theoretical and uncertain end of his maturity. From the educational point of view, nothing is more important than that the child should acquire, not this or that particular technique in his adolescent years, but should strengthen in himself the attitude of adjustability and the habits on which his learning capacity depends. Experiment is the normal mood of adolescence. The mere fact of changing from one occupation to another gives him one kind of training that he needs. We must face the fact that the occupational world is rapidly changing and making new demands upon the worker. The old-fashioned craft in which a man spent his lifetime no longer exists. Whatever our children may look forward to today as a chosen occupation may at any moment suddenly be altered beyond recognition by strange new inventions and fresh engineering developments. It is well to educate the adolescent for stability in the sense of teaching him the necessity of not becoming a casual worker. But the youth who learns to do several things well has not only a better-balanced education, but better chances for survival in the fluctuating economic world created by the machine age in which we live.

There should never be any arrangement in school whereby a boy can, by early injudicious choice, cut himself off from school at any point. As the junior high school courses are now planned, this is all too easily accomplished. By choosing certain schedules at the age of eleven or twelve, he can cut himself off from going to high school. This is all the more undesirable in a neighborhood like that in which our experimental school was located, where the economic conditions of the family are so variable. The boy who looks forward to high school as an impossible expense one year may be able to afford it the following year. This is only another of the many reasons why the effects of a hard-and-fast choice should not be prepared for children by the established organization of the junior high school. In the further interest of flexibility, the work should be programmed by subjects and not by classes, as this would make it easier for children to go ahead at differing rates of speed. The utmost elasticity of detail needs to be achieved in order to prevent the heavy adolescent mortality of which the junior high school is at present the melancholy scene.

In a story which is beautifully told by the Swiss novelist, Conrad Ferdinand Meyer, there appears in the rôle of hero an unusual figure, that of a slow-witted but high-minded youth. *Le bel idiot*, as the story is entitled, relates the tragedy of a dull boy's life, which is consistently and conscientiously devastated in the name of education. He had a well-developed body and great personal beauty, was an excellent wrestler and fencer, and possessed both physical and moral courage of a high order. But lessons were too hard for him and at sixteen he was stuck among the little boys. The youth longed to enter the campaign with his father, who was a marshal under Louis XIV; but the father, who prided himself on his stern discipline and parental conscience, insisted that the boy should finish his schooling. The true pathos of this situation and the tragedy of its end are given with a psychological insight and a vividness of detail which make the story not only a work of art but a real contribution to the problem of education.

It might well be read by all educators and social workers who enter so enthusiastically into the stay-in-school campaigns and strive to prolong the period of compulsory school attendance. We cannot afford to neglect the supplementary and equally obligatory effort which seeks to make the school a place where the adolescent may be happy. The best evidence that the junior high school is fulfilling its function is the measure in which it succeeds in becoming such a place.

CHAPTER XII

HEALTH EDUCATION

Although we have dwelt at such length on the mental and emotional aspects of the child's education, this does not mean that his physical needs were forgotten in our experiment in Public School 64. So far as our facilities extended, and these were increased, as in all the other branches of the experiment, by coöperation with outside agencies, the health problem was attacked from a number of different angles. A group of special classes in the school was set apart for corrective and preventive work in health education.

In one respect, these classes and health considerations generally took first place in the school. If a child was found to have physical defects, the first thing done for him was to try to remedy these. The health classification took precedence over any other. The anemic or cardiac child, no matter what his IQ, went into the special class where his physical handicap received primary attention. If a Terman child was seriously underweight, he was sent to the country regardless of whether he made eight terms in six or not. The removal of physical defects and the improvement of physical health were a regular part of the school program, and school time was systematically devoted to this essential feature of the child's education.

Within recent years, various facts have been brought to light which show the urgent need of health education in the public schools. In the selective draft, a million young men, more than one-third of the entire draft, were rejected because of physical defects. In the public schools, it has been estimated by various authorities that three-fourths of the children are physically defective. A current report by the Children's Bureau on the physical status of pre-school children in Gary, Indiana, states that the exact proportion of young children with physical defects was found to be 95 per cent of those examined. We need not raise the question why the proportion of undefective individuals fell from two-thirds in the draft to one-fourth in the school, and declined from this to one-twentieth among young children in the home. Probably a difference in standards had a great deal to do with the differing results. The draft examined about three million young men, while the Gary survey examined three thousand children; doubtless the latter followed a more thorough and intensive schedule. We can hardly hope, as much as we should like to do so, that school life has such a favorable influence on the health of the child, and that economic life enhances this favorable influence to the extent indicated by the foregoing percentages. In any case, the fact that three-quarters of the school children have physical defects which are largely remediable and preventable, points to the need of positive health work in the schools.

The ordinary provision made for medical inspection is far from sufficient. In New York City, a Board of Health physician is assigned approximately to 10,000 children. The nurse has the same number in her care. In actual practice, the doctor visits each school about three times a month and on these occasions gives about three hours to the school. In the circumstances, the physician hopes at best to reach every child once in three years for an examination. Even then, haste is so necessary that only superficial or highly specialized results can be achieved. What the medical examiner and the school nurse have done has been chiefly in the field of epidemic control. Nowadays the public school has little cause to fear the spread of infectious or contagious disease; the child is well insured against a great variety of plagues which threatened his ancestors.

Health education in the schools, like any other kind of education, does not get very far unless the teacher takes part. Even if the doctor saw the child much oftener than once in three years, his supervision would need to be supplemented by the continuous observation of the teacher. The more obvious physical defects of children should be her immediate concern. The Department of Physical Education of the Board of Education has made it a matter of routine that every teacher shall be trained to recognize such matters as eye defects, adenoids, faulty hearing, carious teeth, and malnutrition. Once a year, in the fall, a health week is set apart, during which these informal and non-technical health surveys take the most prominent place in the school program. The teacher prepares for the school physician a list of children needing immediate attention. In this way, many of them are brought in contact with the health authorities earlier than the routine examination would have brought them.

Diagnosis is, of course, not the teacher's job. But she is furnished with a few objective standards and is trained to feel a responsibility for applying them. More and more the development of health education is coming to depend on the interest and coöperation of non-technical people — teachers, social workers, parents — all those in habitual contact with the child have a special responsibility for training in those health habits on which, in the last analysis, health chiefly depends.

The regular curriculum of our school required that five hours a week should be devoted to corrective gymnastics and to games and athletics. A two-minute drill was carried out with open windows at the end of each hour in the classroom.

The regular gymnasium in the basement was far from adequate; fortunately the lack was met by the Boys' Club, Christodora House, and the Tompkins Square playground, with all of which our school coöperated. The school baths, however, were able to take care of a large proportion of the 3000 children every week. There was a certain amount of opposition to the bathing from foreign-born parents. At first mothers appeared in the principal's office to protest, "My son is too delicate"; or "We have a bath-tub at home." But it was not difficult, especially with the aid of the boys' own enthusiasm, to remove these objections. Thanks to the public school bath, the sewed-up child, who was so popular in East Side fiction a few years ago, has entirely vanished from the scene.

Swimming was also a regular part of the physical training of the school. The Boys' Club provided an excellent swimming pool and the Board of Education furnished a teacher. Two entire week days at the Club were given up to our school, allowing swimming periods for five or six classes a day. Some of the special classes, as we have mentioned in a former chapter, had a swimming period every day. With the dull normal class and the neurotic class, the value of the swimming pool as an educational influence was especially appreciated. In general, the plan was that no boy should graduate from the eighth grade without having learned to swim.

THE DENTAL CLINIC

The dental clinic maintained by the Red Cross was one of the most valuable contributions towards the physical care of the children. As our school was crowded, we asked Christodora House to give space for this clinic. A dental hygienist was constantly in charge and the dentist was there for half time. We began with the kindergarten children and systematically followed through all the classes up through the third year. The dental hygienist would take the children from the classroom, put them in the chair, clean their teeth, and mark cavities for filling. The Terman classes and the nutrition group were looked after by a neighborhood dentist[1] who gave several mornings a week to them. There is great need for a permanently established dental clinic in the school, and this experiment showed how much could be accomplished in a short time by systematic work. It is one of the most strategic measures in conserving children's health.

THE EYE CLINIC

The eye clinic, fortunately located in the school, was one of seven maintained by the Bureau of Child Hygiene of the Board of Health. This type of work is not usually done in the public schools until the third year. The value of a thorough examination at the very beginning of school life, however, was shown by the fact that about 27 per cent of the six-year-old children were found by this clinic to need to have immediate attention given to their eyes. The teachers were trained in the use of the Snellen eye-charts and were thus able to make a first rough selection of the cases needing clinical care.

METHODS OF HEALTH TEACHING

Experiments in methods of teaching health material were necessarily incomplete, though a few satisfactory demonstrations were made. Various devices to interest the children in proper food were used successfully, such as stories, rhymes, and posters. The health clown made occasional visits and his popularity showed that it was possible to give health talks in a palatable form to children of all ages. It also pointed to the need of a regular health worker in the school, who would organize the work in such a way that the stimulus given by a popular health "stunt" or a health week should be carried over into a regular scheme of health teaching in the school.

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[1] Dr. L. A. Leichter.

Concerning the physical defects of young children generally, there is a tendency among adults to fall back on the easy-going theory that the child will outgrow them. This philosophy has obvious advantages but can easily be carried too far. The school needs a non-technical health worker who will interpret to parents the technical examination and its recommendations, and help them to discriminate between what may be left to the unaided outgrowing process and what should be scientifically corrected.

As with the vocational material, the health material was correlated in some cases with other subjects. A class of young children became a cooking class and a nutrition class at the same time, the children preparing lunches for themselves and using in this connection what they had learned about food in the nutrition class. It was in the nutrition work that the class method was especially developed, this method being one of the principal contributions of that experiment.

In the organization of the school, three types of special classes were provided for children with physical handicaps: the anemic or open-air classes, the nutrition classes, and the cardiac classes.

THE OPEN-AIR CLASS

The open-air classes, like the other special classes in the school, were limited to twenty-five members. Their organization and work were similar to those of other open-air classes in the public schools. The children were selected from the regular classes and included those from families in which some member had died of tuberculosis or was afflicted with it, cases of extreme malnutrition, and cases of chorea.

The children were taught the elements of health education in respect to food, study, play, and sleep. Each child was the possessor of a health chart, on which were recorded his weekly gains or losses in weight, hours of going to bed, amount of coffee or tea drinking, and physical defects needing to be remedied or having been remedied. The scales were used to teach the children, through actual demonstration, that giving up tea and coffee caused them to gain in weight. At first it was hard to persuade the children to enter these classes; but parents soon came to realize their value and would often ask to have their other children admitted, even though these were not anemic.

THE NUTRITION EXPERIMENT

The nutrition experiment, like the excellent work of the dental hygienist, was of all too brief duration. It was carried on for two and a half years by the Bureau of Educational Experiments, which has published a complete account of the undertaking and its results. The experiment was adapted from the nutrition work developed in the Massachusetts General Hospital under Dr. Wm. R. P. Emerson, who was also associated with the first year of its innovation in Public School 64. The purpose was to introduce the methods of the hospital nutrition clinic within the educational procedure of the public school. This was a very thorough piece of research work, although it did not progress to the point of becoming a general health program. The "class method," which was demonstrated, formed a contribution to the more definitely educational problem of the school experiment.

The following statement occurs in the report:[1]

> The health program of the school, if it is to be developed in accordance with educational conceptions of the present day, must conform to the general thesis that the child's environment shall afford the conditions

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[1] Hunt, J. L., Johnson, B. J., and Lincoln, E. M. *Health Education and the Nutrition Class.* Dutton, New York, 1921.

for certain necessary experiences, and that his intelligent coöperation with regard to these experiences must be secured; it must give to the school and to the individual child within the school a creative attitude toward the problem of health; it must function appreciably in better habits of health and in better individual well-being.

In its practical methods, the nutrition class conformed to this theory. It added another illustration to that already furnished by the ungraded department: that the special class may develop a really scientific pedagogical technique as soon as the three R's cease to be its sole excuse for being. In these special classes it was found possible to give the child experiences, to teach him on the basis of these experiences, and to observe the results of such teaching in his personal development. It may be noted that all such special classes were limited to not more than twenty-five children. This was an important element in their successful achievements; but even more important was the release which came from teaching subject-matter still unhampered by traditional methods and formalistic values.

As with most of the experiments in the school, the nutrition class was first tried out with the older children. On the theory that these children could coöperate more intelligently, the first classes were organized from the fifth grade up. The Terman classes were included in this group. Later on two entire open-air classes were converted into nutrition classes, an arrangement which greatly facilitated the work with both types. At the beginning of the second year it was decided to experiment with the first grade children. All the children in the September entering class were weighed and measured in their first week of school. Those who were more than 7 per cent underweight were placed in a special class and health was made the center of their curriculum.

The procedure of the experiment was simple. It employed a laboratory method and taught the child to make experiments on himself. The children were selected by the height-weight-age tables[1] which have grown increasingly familiar within the past few years and which should be in the hands of all teachers and parents. The children were given a careful stripped examination by a physician, and special defects, such as adenoids, bad tonsils, and carious teeth were first of all taken care of. The children were taught to understand calories and a diet of 2000 calories was recommended. To insure this average amount a midmorning lunch was supplied by Christodora House, as the school had no lunch-room of its own. The midday meal was also supplied here for certain groups of children and the gymnasium was used for the daily rest period prescribed for every underweight child.

Each child was supplied with a booklet containing a list of common foods in 100-calorie portions. In this book he kept a record of his own food habits, which were discussed with the nutrition worker at the end of each week and revised during the following week. He was also given an individual chart on which his physical status was recorded from week to week, so that any gain was at once visualized. These charts were also helpful in enlisting the interest and coöperation of the children's mothers. With the six-year-old children, much of this responsibility was of necessity taken over by the mothers, although the young children were also led by the use of scales and charts to feel themselves a factor in their own progress. An effort was made to have the mothers attend the weekly class meetings, which was successful to some extent. But the coöperation of the home was chiefly sought and obtained by home visiting. Since the scheme was primarily educational in its purpose, it would have been consistent with the plan if all the food had been supplied by the home. But some school feeding was undertaken in order to insure the amount and kind of food that was recommended. This was understood, however, by the children and their parents, to be a necessity of the experiment and not a charity.

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[1] The Burk-Boas Tables were used in this experiment. Similar scales may be obtained from The American Child Health Association, Washington, D. C.

The full results of the nutrition experiment need not be given here, as they may be read in detail in the report to which reference has been made. However, two of its outstanding features may be mentioned.

A comparison of the gains made by the several different groups showed that the greatest gain of all was made by the Terman groups and the next greatest by the six-year-old children. The data were analyzed by the staff and the following reasons were suggested:

> The distinguishing feature of the Terman group is its intelligence (measured by a special standard), and this may be supposed to have made the instruction given it more effective. An intelligent over-control of the environment by adults is one of the goals set by our attempted program. To such an over-control the intelligent self-control of the Terman group might be said to approximate. The eager-minded and participatory attitude of these children toward all their school activities ensured better coöperation on their part than could be obtained from children of the regular grades. Thus, intelligence in the group, or in direct application to the control of the group, is suggested as one explanation of the satisfactory results they achieved. . . .
>
> Second only to the gain made by the Terman class is the record of the first-grade children, yet their program included only the provisions for physical care and instruction and was considered by members of the staff the least satisfactory of any afforded. Because the program of instruction was ill-adapted to their age period, increased necessity for coöperation from the home was felt by the staff, and therefore much greater effort was made to interest the mothers and secure their attendance at the class sessions. Our efforts were reinforced by the greater readiness of parents to maintain intelligent control and lend coöperation to special efforts on behalf of young children. Thus better environmental control was secured for this group than we were able to secure for the others, and the special factor of intelligence in the Terman group was paralleled, in the case of the first grade, by the factor of adult supervision.[1]

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[1] Hunt, J. L., Johnson, B. J., and Lincoln, E. M. *Health Education and the Nutrition Class*. Pages 53–55. Dutton, New York, 1921.

A special feature of the nutrition experiment was the study of comparative mental ability among under-nourished and well-nourished children. The individual physical examination of the underweight children was supplemented by an individual psychological examination, in which a series of special tests were given in addition to the usual tests given in the school. The same physical examinations and mental tests were given to a control group of normal children, and the results compared. They indicated the equality, if not the superiority, of the under-nourished children. The groups were so small and the average scores showed so little difference that positive conclusions cannot be drawn from the tests. The study of the under-nourished children may be said to have yielded negative results, so far as any causal relationship between malnutrition and mental inefficiency is concerned.

In this connection, the report states:

> Aside from extreme cases of malnutrition, of prolonged hunger or starvation, which like other pathological states, would cause disintegration, we cannot say that malnutrition irrespective of other factors produces or runs hand in hand with mental defectiveness. In many types of mental processes the reactions of the under-nourished child are equal or superior to the average of his age group. The traits in which he may prove less capable seem to be resistance to fatigue under response to uninterrupted or complex stimuli, and exaggerated emotional responses under normal stimulation. A problem worthy of study both for the under-nourished and for the hearty child is fatigue, with special reference to the period of recovery.[1]

THE CARDIAC CLASS

The special classes for cardiac children were established in 1919. Public interest in the problem of heart disease had been greatly stimulated during the preceding years by reports from the army and surveys from the public schools. It was found that thirty in every thousand men examined by the draft had heart defects and that probably 150,000 deaths in the country every year were due to cardiac disease. This is a larger number than is now attributed to tuberculosis. It was estimated that 20,000 children in the New York public schools had heart trouble and were, nevertheless, obliged to climb fifteen to twenty flights of stairs daily. The idea grew up among physicians, educators, and social workers that the facts about heart disease should be ascertained and that methods of prevention and improvement should be scientifically worked out. It was assumed, from the beginning, that the problem needed the coöperation of medical experts and non-technical health workers. From the campaign against tuberculosis this valuable lesson of experience was adopted.

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[1] Hunt, J. L., Johnson, B. J., and Lincoln, E. M. *Health Education and the Nutrition Class*. Pages 212–213. Dutton, New York, 1921.

The Association for the Prevention and Relief of Heart Disease was organized in 1915, but, owing to the interruption caused by the war, did not begin active work until 1919. In the same year, the Cardiac Committee of the Public Education Association enlisted the coöperation of the Board of Education, which appropriated funds for an experiment with special classes for cardiac children. It was decided to conduct the experiment within the organization of Public School 64. The Children's Aid Society supplied five sunny ground-floor rooms in its near-by building and contributed in many ways to making a favorable environment for the children. Dr. Robert H. Halsey of the Post Graduate Hospital held weekly clinics at the school, and kept the entire experiment under his supervision. As with the attempts in physical care already mentioned in this chapter, the classes were designed to aid research in education as well as to serve in the elucidation of a medical problem.[1]

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[1] This experiment owed much to coöperation. The organization and plan were primarily due to the efforts of Dr. Robert H. Halsey of the Post Graduate Hospital. The account of the work which is given here is taken from reports

The work done with the cardiac classes was altogether of a pathfinding character. The purpose of the experiment was to discover the following:

The actual number of children having damaged hearts and their actual rate of occurrence.

Whether segregation of children suffering from cardiac disease is of benefit.

The types of cardiac children now attending the public schools that require this segregation.

The kind of program that is best suited to the improvement of the cardiac child in school.

To what extent a standardized program and procedure can be established throughout the public school system.

The principal causes of cardiac disease in school children.

What can be learned from the study of a group of cardiac children that may lead to the prevention or reduction of cardiac disease in all children.

Since the classes have been in operation, a great deal of scientific material has been carefully gathered and studied with a view to discovering to what extent and by what means cardiac disease may be prevented. The past history of 125 children was carefully inquired into and the incidence of the various diseases compared with the histories of 300 normals, or children from the same district, of the same age group, and considered well and healthy. In the children with chronic heart disease, tonsillitis, rheumatism, and chorea had a distinctly higher incidence than in the normal group. The experience at the Mineola Cardiac Home confirmed the opinion that in most cases children with definitely decayed teeth and infected tonsils do not make the same progress as those whose mouths and throats have been cared for. As the work has

and material written by Dr. Halsey. Colleagues of Dr. Halsey who assisted in holding clinics were Dr. Blake F. Donaldson, Dr. Berton Lattin, Dr. Frank MacLaury, and Dr. Walden E. Muns. Generous encouragement and financial aid were given by Mrs. Irma B. Levy and the other members of the Cardiac Committee of the Public Education Association. The New York Philanthropic League and the Child Welfare League contributed food and recreation. A splendid spirit of coöperation was present among all who had any relation to these handicapped children.

progressed, the problem has become more and more clear, until there is real hope that definite and fundamental results will be ultimately contributed to the reduction of heart disease as, in the past, to the reduction of tuberculosis.

Already, great practical benefit has come from the classification of patients adopted in 1921 by the New York Association of Cardiac Clinics. This is not an exact system of division. It was worked out by the process of trying out what the child could tolerate in the way of exercise. For an exercise test, the standard of ordinary exertion of children of a rise of thirty feet in twenty seconds has been accepted for the purposes of the experiment.[1] The classification used is the following:

CLASSIFICATION OF CARDIAC PATIENTS

Class 1. Patients with organic heart disease who are able to carry on their habitual physical activity.

Class 2. Patients with organic heart disease who are able to carry on diminished physical activity.
  A. Slightly diminished.
  B. Greatly diminished.

Class 3. Patients with organic heart disease who are unable to carry on any physical activity.

Class 4. Patients with possible heart disease. Patients who have abnormal physical signs in the heart, but in whom the general picture or the character of the physical signs leads us to believe that they do not originate from cardiac disease.

Class 5. Patients with potential heart disease. Patients who do not have any suggestion of heart disease, but who are suffering from an infectious condition which may be accompanied by such disease; *e.g.* rheumatic fever, tonsillitis, chorea, or syphilis.

There were three classes of about twenty-five children each in the cardiac department. They were drawn from seventeen schools in the district, all within a radius of a few blocks from Public School 64. An extension of the work was made in the second year by the establishment of the Mineola Home for Cardiac Children. Most of the children sent here were too ill to attend regular school, but after a short time were able to take part in some of the class activities. The country home has proved a valuable annex to the school work, since it supplied a place where children could be sent for short periods under continued supervision, and provided an environment which encouraged initiative and proper activity on the child's part.

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[1] Wilson, May G. "The Equivalent of Ordinary Exertion," *Journal of the American Medical Association*, April 30, 1921. "Exercise Tolerance of Children with Heart Disease," the same journal, June 11, 1921.

The method of selecting children for the cardiac class was this: The principals and teachers of the neighboring schools referred to the clinic all children having indications of heart defect. The Bureau of Child Hygiene of the Board of Health coöperated by examining children and recommending the cardiac classes to parents. It was found on the basis of this survey that less than one per cent of the school children in the district came within the classification adopted by the clinics, and that only slightly more than one-half of one per cent had organic heart disease. This reduces the probable number of cardiac children in the New York schools from 20,000 to 10,000. Up to the present time, however, only 1000 out of these 10,000 children have been cared for in special cardiac classes.

It appeared also that for every three children with abnormal physical signs, only one had signs which indicated actual organic damage; the signs in the other two could be explained by accidental conditions.

The small proportion of severe heart cases, so far as numbers were concerned, was noteworthy. Of all the children falling within the clinical classification, about 90 per cent came within *Class 1* and *Class 2 A*. In forming the special groups, preference was given to *Class 2 A* although representatives of all the other classes were included. It was possible to demonstrate amenability to treatment in all these classes.

Children in *Class 3* were advanced into *Class 2 B* and from *Class 2 A* to *Class 1*. In the course of three terms, thirty-six children showed such marked improvement as to be fit to return to the regular school — that is, they became *Class 1* cases. Other general evidences of a favorable reaction to the special environment were the improved average attendance of the children and the increase in their average weight.

The school day began between 8.30 and 9.30 o'clock and the cardiac children each received a cup of hot water containing half a bouillon cube on arrival. They stayed all day, a hot luncheon being supplied at noon for a small fee. A rest period of one hour followed the luncheon, after which school work was resumed until 3 o'clock. Half an hour was then devoted to graduated physical exercises. Another hour was occupied with quiet games, cooking classes, carpentry, basket weaving, singing, and dancing. At 4.30 crackers and a glass of milk were served to each child and the class was dismissed.

The setting up of a definite program of exercise was a real innovation in the treatment of heart cases.[1] Hitherto, the physician's practice has been to issue a blanket prohibition against physical effort of any kind and parents and teachers have enforced the prohibition in a spirit of constant fearfulness. The moment in which a child is diagnosed as a heart case, he is put on a constant régime of "don'ts"; but he is not told anything that he may do. The doctor has been primarily responsible for these overdone restrictions, because he has not thoroughly studied the patient and his limitations, but has treated all cardiacs as hopeless cases with the implication of imminent death. That mothers have been so terrified by this implication that they have strait-jacketed a child's whole life is not to be wondered at. There were children in our cardiac classes who had never been allowed even to feed themselves.

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[1] See Appendix B.

The mothers had to be convinced by actual demonstration that the child could eat unaided.

It requires careful study under expert supervision to find out what amount and kind of exercise the cardiac muscle can tolerate and improve by. The treatment must be adjusted to the individual; the valvular defect gives no true idea of the duration or degree of vigor of the exercise permissible. The special class where children can be kept under trained observation is a necessary supplement to clinical examination. The coöperation of the teacher and health-worker are indispensable in prescribing a beneficial régime for the individual. Some of these children can exercise for only a few minutes, while others can exercise for half an hour. The type of movement is selected so as to require a larger group of muscles and a greater degree of exertion as the time elapses. The heart beats more slowly, and the breathing is not accelerated to such a degree as in the ordinary exertion of walking. As improvement in the general condition is accompanied by increased tolerance of exercise, the children are allowed greater freedom.

Heretofore the cardiac child in the public schools has felt the result of either of two conditions. He was either eliminated because the school feared to take responsibility for his educational welfare, or else he was neglected. He was not allowed to exercise with the other children, and in places where he received careful consideration, was kept apart from the other children at entrance and dismissal from school. In this way, he came to feel his handicap keenly and to succumb to hopelessness and feelings of inferiority which lowered his actual chances of improvement. The atmosphere of the cardiac class has served to build up his morale.

The question is often asked whether the grouping together of patients with heart disease is not depressing to them and, therefore, undesirable from the therapeutic standpoint. This has not proved to be the case, but the very opposite. The children in the special class became mentally more alert, they entered into their undertakings with more enthusiasm, and their outlook on life grew more hopeful. Parents and teachers occupied themselves with thinking of the things they could teach the children to do instead of denying them all enjoyments. The philosophy is one of teaching them to do within their capacity rather than of prohibition from all action.

One of the most important features in the successful care of heart cases is the emotional factor. In commenting on the psychology of the cardiac child, Dr. Halsey says:

> These children frequently showed a certain diffidence and lack of initiative, a disinclination to associate with others; often, too, a moderate lower grade of school knowledge and a certain eager readiness to attribute their backwardness and inefficiency to the possession of heart disease, the statement often accompanied by a significant gesture of the hand toward the left breast. It seemed to me these general deviations in behavior were derived from three sources: the family, friends, and teachers; others with heart disease; and the family physician. . . .
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> Unfortunately, popular tradition makes and knows no distinction in degrees or forms of the disease. Knowing the importance of the organ to the life of the individual and having heard of some persons who died suddenly, they are often so impressed, that their constant fear is that some slight infraction of a physician's directions against physical exercise will be penalized by sudden death. So all-pervading is this fear, that relatives and friends converse concerning the child with heart impairment in whispered voice accompanied by significant shrugs of the shoulders, raising of the eyebrows, and noddings of the head. . . . The observation of the cardiacs of the management accorded them in school by the teachers and scholars, often depresses by emphasizing their physical shortcomings or intellectual backwardness, which are repeatedly ascribed to the heart disease, until the patient becomes discouraged and hopeless, or, in desperation, attempts to do physical work in excess of his cardiac reserve power. . . .
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> During the war, many cases of so-called shell shock were made serious and severe by the ill-timed sympathy of a soft-headed physician or medical board. The same type of psychic damage can be produced in children by the expressions of pity for them by their family, and sympathy for the family by the friends who inquire as to how soon before the child is expected to die. . . .

It has seemed to me that the more one sees of heart disease in children the more hopeful he may become; for the cardiac condition of most children under proper supervision improves very rapidly, much more rapidly than one would anticipate. While the cases coming to the hospital ward are usually in the final stages, yet numerically they are a small minority of the large number of hearts which are damaged. The greater number of damaged hearts are of a milder degree and live for the most part a natural physical, active life.

The mental ability of the cardiac children was studied by means of psychological tests. The results are given in Table XXVII, which is based on individual Stanford-Binet tests.

TABLE XXVII

SHOWING IQ'S OF 66 CARDIAC CHILDREN. MEDIAN IQ, 87.5

IQ	Number of Cases	Per Cent
140–150	1	1.5
130–140	0	.0
120–130	0	.0
110–120	6	9.1
100–110	10	15.1
90–100	13	19.7
80–90	12	18.2
70–80	13	19.7
60–70	7	10.6
50–60	4	6.1
Total	66	100.0

No positive conclusions can be drawn from the small number of cases included in Table XXVII. The median, 87.5, is noticeably lower than the median obtained by the same tests for the entire groups of entering children, 93.46 (page 42). The reason for this difference is not known. The small group of cases reported here will need to be supplemented by a wider survey of cardiac children before any definite hypothesis concerning their mental status can be reached.

Our experience has shown that there is a place for the cardiac class in the school and that coöperation between medical and educational effort is practical. In a densely populated city like New York, the problem is a district problem. Like every form of special class, the best results will be obtained by limiting the age-range of the children under one teacher's care. The three classes in our cardiac department made a comparative, if not an exact, grading possible, which aided the teacher's pedagogical task. It would have been a great advantage if transportation could have been furnished and a larger area could have been included in the district assigned to the school. In this way, we could have established five or six classes instead of three, with resulting advantages in grading, grouping, and equipment.

MENTAL HEALTH

One of the most characteristic of the experiments in health education made by the school was the effort to deal with mental health in a constructive way. Just as preventive medicine has made great strides in relation to physical health, in the same way the preventive aspect of mental hygiene is coming to be acknowledged as a necessity in education. A school whose atmosphere is one of hospitality, flexibility, and good will is one in which the fewest number of mental cases are likely to develop. The child may, however, bring with him from the home the results of emotional strain. Teachers often fail to realize how much the school may do to increase or decrease the tension in the home. The center of many a crisis in the child's family situation is a poor report, a note from the teacher, a visit from the truant officer, a summons for the parent to appear at school. Any one of these unexpected communications may throw the family into a panic out of all proportion to the seriousness of the occasion.

Between the time when the mother receives the note and calls next day to discover that Abie has taken another boy's hat by mistake, the chances are that Abie has received some drastic punishment, that Father has pictured him in the Children's Court, and that Mother has spent a sleepless night. The visiting teacher acts as a shock absorber in freeing ordinary adjustments from over-emotional significance. By her method of producing an explanation at the same time that some school difficulty is announced to the family, the peremptory note is eliminated and the element of suspense removed. A conscious appreciation of this was shown among the children by their asking the visiting teacher to call and explain some complication to their mothers when they would do anything to avoid taking home a note. By building up a more reasonable attitude in the school toward the home and a reciprocal attitude of confidence in the family, many unnecessary crises are avoided. Thus the visiting teacher becomes a real agent of mental hygiene in the school.

While extreme cases of maladjustment were taken care of in the neurotic class, there were numerous children, who, as sporadic or temporary problems of behavior, came under the observation of the psychiatrist. Often simple adjustments were sufficient to settle apparently difficult problems when approached from the psychiatrist's angle. There are cases of discipline in every class which spring from a strained relationship between teacher and pupil, which may be partially, if not entirely, relieved by a patient study of the emotional sources of the conflict. Too often the teacher takes the child's misconduct as a personal affront. But once the teacher comes to see that even human conduct follows the law of cause and effect, she is able to take a more impersonal view of the eccentric child than heretofore and to make a more scientific approach to his problem.

The presence of the psychiatric clinic in the school has a subtle but unmistakable influence on the teacher's attitude toward discipline. It is not merely that it gives her somewhere else to send a difficult child for a reprimand besides the principal's office, but also that it gives her a certain feeling of support in trying out experimental methods with these cases. For instance, it is contrary to the nature of many a teacher to manage every child merely by dominating him. Such a teacher, if she has any backing at all, is only too glad to find another method of approaching human relationships in the classroom, and often does so very successfully. Teachers who are jaded with the routine of imparting the same subject-matter term after term, find a revivified interest in their profession when the working out of human relations is allowed to become a dignified and valid aspect of teaching.

One thing above all others that the psychology of the emotions has taught us is that there is no abnormality characteristic of the insane which cannot be seen in milder form in the general run of human beings. The personality make-up of all kinds of abnormal types is easily discernible in perfectly normal people, and familiarity with these makes it possible to detect the same trends in children. The presence in the school of a physician who is familiar with the magnified form of character trends, helps the teacher to see many opportunities to counterbalance in education individual eccentricities which, if enhanced, might lead later to inefficiency and unhappiness. There are certain types of children who should never be allowed to remain for any length of time under the control of certain types of teachers. When such matters are handled impersonally and science is substituted for blind discipline, much of the unhealthy tension of school life is relieved for teachers and pupils alike. Just as "dirt, darkness, and dampness" breed tuberculosis, so tension, suspicion, and fear nourish the germs of emotional ill-health and mental disease.

There is probably no greater enemy to a healthy and well-adjusted life than the insidious fears of childhood. The value of fear in preserving a child from harm is greatly over-estimated; it probably ruins more lives than it saves. Few people know how easy it is to get rid of fear if they have a scientific technique. With children this is especially true, because the longer a fear remains the more strongly fortified it becomes. Most pathological phobias have their origin in a childish fear which might have been curable in its early stages.

Perhaps nothing is more universally feared than the snake. Among adults the emotion sometimes grows into an irrational terror. Yet, even this can be dissipated in children by proper handling. It was demonstrated with our neurotic class, which contained, by reason of their neurotic tendencies, the most timid and fearful children in the school. The teacher of nature study [1] took into the classroom a king snake — which is of a harmless species — about three feet long. The reptile was hidden in an ordinary embroidery bag and the children were asked to guess what was in the bag. A series of wild guesses followed, at the end of which the children were told in a casual tone, "It's a snake."

They exclaimed loudly and shrank away from the teacher, who continued placidly, "Does anybody want to see it?" There was a chorus of protests. "Well, those who are afraid may go away off there in the corner, because you'll scare my snake if you come close." The teacher then seated herself on a chair surrounded by a small group of the more valiant spirits. First she took out the snake's head from the embroidery bag on her lap. The children gazed awe-struck at first, those in the far-off corner gazing of course with the greatest fascination. Then the rest of the snake's body slowly came out. "Don't you want to touch it?" was the next question. One or two pioneered and reported how it felt. "It feels smooth and cold like a brass candlestick," said one little boy. Curiosity led the others on, and before the hour was over every child in the neurotic class had handled the snake. They had not only handled it but had learned to handle it carefully and gently, for the teacher had explained to them that the snake was a delicate and sensitive animal and could be easily hurt. It is clear that any child of eight or nine who had really grasped this idea would never again have the same undiscriminating terror of the snake species.

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[1] Miss Laura B. Garrett had charge of this work. Miss Garrett describes her methods in a pamphlet entitled "A Study of Animal Families in Schools," published by the Bureau of Educational Experiments, 144 West 13th Street, New York City.

Animals of all kinds are interesting to children. They occupy a prominent place in the phantasies and literature of childhood. It is one of the greatest deprivations of the city child that he grows up unfamiliar with the common barnyard animals. That he should come upon these first through stories rather than experience is like reading about thunderstorms and swimming holes instead of meeting them. Just as we felt that the swimming pool supplied a primitive need of the healthy child's nature, in the same way we realized that his contact with animals should be something more than an annual visit to the zoo.

To meet this need in part, an animal room was instituted in the school. A south room with a tile floor was selected and different kinds of animal families were installed. The shop classes built the necessary equipment, such as hutches, coops, aquaria, and so on. We collected from various sources as many kinds of animals as were practical, including chickens, ducks, geese, rabbits, pigeons, mice, guinea pigs, squirrels, fish, turtles, frogs, and bees. All these animals were in families. Building homes and reproducing their kind added to the children's interest in the study of their life and habits.

Instead of talking about the robin and the vireo, the life of the animal was observed from babyhood up. Committees of pupils were appointed to assist the science teacher in feeding the animals and keeping their homes clean. The children were taught to handle their charges with care and respect. They soon learned that the animals were more easily frightened than they were, and even high-strung nervous children learned to control themselves unusually well for the sake of the great privilege of being allowed to hold the baby rabbit. Many lessons in sex hygiene were indirectly learned from this familiarity with the family life of animals. Children's questions were frankly answered; but so great was the interest in the many phases of life in this fascinating room that the phenomenon of reproduction did not assume a disproportionate prominence.

We felt that in a school of three thousand children from six to sixteen the problem of sex hygiene and sex instruction could not entirely be ignored. The children were misinformed rather than uninformed regarding this side of life. We did not feel sure enough of our methods, however, to undertake to deal directly with this problem in the classroom. It seemed that the safest method of approach was to give a thorough course of instruction to the teachers. The course was given by a trained biologist, whose approach to the subject was entirely wholesome and unemotional. The talks took place after school hours and attendance was optional. They were so much appreciated that they were repeated later by request for the benefit of new teachers and those who had previously not been able to attend. This seemed to us the best way to build up in the school a normal attitude toward this rather difficult subject and the individual problems connected with it which arise in every school.

The limitations of the health program are evident. While an attempt was made to deal with this fundamental part of education in an all-round and constructive way, the lack of a full-time health worker in the school caused unavoidable gaps in the program. Many of the efforts described were not begun until late in the experiment and others were curtailed for lack of funds. To have made the health program really effective, it should have been co-extensive with the psychological work. As the experiment developed, many of the health problems were uncovered as a by-product of the grading process. Had we known as much at the beginning of the experiment as at the end, we should have had the material to make an effective demand for the kind of support that would have given the school an integrated and continuous program of health education.

The tendency of the different pieces of health research carried out was to emphasize the necessity of an early attack on the problem. Just as most of the mental handicaps of children do not suddenly arise in the fifth and sixth grades where they are too frequently discovered for the first time, in the same way many of the remediable physical defects of children come to school with them in the first grade. Every successive year in which a child is handicapped by infected tonsils or malnutrition or obsessive fears is an added obstacle to his development into a healthy, normal adult. It has been proposed as a means of raising health standards, that children should have their diplomas withheld at graduation until all physical defects had been remedied. This is obviously attacking the problem at the wrong end. Would it not be more logical and equally feasible to give each six-year-old child a physical examination and require that his physical defects be taken care of before he is officially entered in school? The definite health work of the school should then concentrate on putting each child in prime physical condition before he reaches the third year of his school life.

From this point on, health education should concern itself chiefly with the building of constructive health habits in normal children. This should be an integral part of the curriculum for every grade. As the children grow older they are increasingly capable of taking an intelligent and self-directing attitude towards their own health. The school should hold itself responsible for giving them the information and materials with which to make a positive attack on this fundamentally important side of life.

CHAPTER XIII

CONCLUSION

The spirit of experimentation is absent, as a rule, from even our best public schools. Through his responsibilities as a pedagogue, the schoolman has developed a peculiar pride which makes him unwilling to run the risk of failure and the necessity of confessing it. Between teacher and pupil there exists a polite fiction that the teacher is always in the right. It is a convention which the school has borrowed from the home, where the parents must also sustain a reputation for infallibility. But the experimental spirit requires the educator to be willing to admit that he has failed — an attitude to which his life in school has made him unaccustomed. He is aware that faults exist, but he is waiting for the one best and final method to come along before he consents to make any change whatever.[1]

This emphasis on finality discourages all experiments. It accounts for the slow progress of public education and the startling anachronisms of the school of today. The spirit of the investigator, realizing the necessity of venturing along new paths, must not be too suspicious of every experiment which does not promise to furnish the final perfect method. Mistakes in education, as in everything else that is vital, are inevitable. The greatest mistake of all is in thinking that the traditional way is the one and only way of doing things. It needs careful planning to try new paths, but, having duly weighed the possible difficulties, it is well to strike out definitely in that direction which promises the most favorable results. To abandon false pride and cultivate a receptive mind requires a special effort on the part of the educator who is regarded by society as the custodian of ancient and inherited values and who, therefore, finds easy success in following the trodden ways. The teacher who is little more than an animated moth-ball, preserving sanction and tradition from overdue decay, may still escape all criticism within the little world of academic values.

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[1] Since this study was written, the Superintendent of Schools of New York City has designated twenty-five elementary schools as experimental centers. The Superintendent's instructions to the committee in charge are in part as follows:

"The immediate problem of the committee will be to select at least one school in each district and after careful study, to recast as far as may be needed, the class organization, the course of study, the mode of promotion and related matters, so that by the close of the school year there will be in each district at least one school which may serve as a pattern worthy of visitation and study."

As a result of our six years' experiment, we do not claim that marvels were achieved. Nothing that has been described in the foregoing chapters is offered as a model of a perfected method. All that was attempted needs further experiment and continued study. But this much is certain: we would not, for any consideration, go back to the old way. In retrospect it seems not six years backward in the past but fifty. To carry on a public school without the aid of the psychologist, the visiting teacher, the special class, the co-operation of social agencies, now seems to us unthinkable. The instrument used by the psychologist, the technique employed by the visiting teacher and social worker, will undoubtedly be improved; but in the meantime the school cannot afford to neglect existing methods which are known to be accurate and helpful. Otherwise our school supervisors and school teachers will soon find themselves in the ironical position of knowing less about human nature in the making than the workers in any other institution, including the prison and the reformatory. The complacent formalism of the public school, the uncritical and therefore uncreative spirit of public education, must be replaced by an honest hospitality to experiment.

There have been experiments in education carried on in private schools or public schools in small towns, with noteworthy results. Most of these have no real value for public education. The pupils are a selected group, selected at the time of their admission and re-selected with every promotion day of their subsequent school careers. The child survives and thrives because he fits the school, and not because the school fits him. This is the reason why most men of long experience in large public school systems are not very enthusiastic over reports on experimental education. There are many so-called model schools which are visited by thousands of observers and which, nevertheless, throw no light whatever on the complex problems of public education.

The public school cannot select its clientele. It must take all comers, rich and poor, alien and native, genius, average, defective — the socially valuable and those of opposite tendencies. Compulsory education requires an entire reconstruction of our school organization, methods, and aims. The public school must have a place for every kind of child above the grade of idiot. And this means much more than merely providing a hardwood seat with a cast-iron base. It means a place for the personality of the child, whatever his characteristics may be. It means an inclusive attitude instead of an exclusive attitude. It means a spirit of hospitality which is as broad and all-embracing as universal compulsory education itself.

As a matter of fact, many public schools live up to their reputation for inclusiveness in theory only. The processes of selection and elimination, which are openly and legitimately employed by private schools, are used by the public school as a last resort and disingenuously practiced. The child who is persistently troublesome is passed on by transfer to another school, accompanied by an innocent-looking record which, oddly enough, gives no hint of his previous career as a trouble-maker. The big overgrown boy, whom the teachers describe as a "dumb-bell," is urged to take his working papers. He might just as well, they say, for all the good he is getting out of school. Another way of getting rid of an impossible boy is "to make an example of him," by sending him to the truant school, the disciplinary school, or the juvenile court. During the six years of this experiment no child was eliminated from the school under any of these pretexts. While we by no means solved all our problems, at least we worried along with them. We never felt that the exclusion of a child, however masked, was any solution for his difficulties. And this attitude, we maintain, does not represent a sentimental but a realistic view of childhood. That it was practical for half a dozen years in a public school enrolling about three thousand boys, demonstrates its workability. The first law of the public school is, *The child belongs.* Once this principle is unreservedly accepted as the foundation of public education, its implications must also be acknowledged and carried out through a more flexible kind of education than has ever been dreamed of by public school curriculum-makers.

We are tending in the direction of individual training of pupils, away from mass education. But the attainment of this ideal is hampered by a general vagueness and uncertainty as to methods of realization. The experiment described in the foregoing chapters has suggested at least these definite ways of going forward. The psychological tests have helped to uncover facts which must ultimately be faced if we are ever to understand successfully the individual child. Science has produced for educational use standards of growth which, though subject to further revision, are already of great help in analyzing the personality. The chronological age, intellectual age, academic age, physiological age, and emotional age — all these may be estimated in relation to each other to the end that the child may be rescued from as much guesswork as possible. Special classes with small registers are decidedly worth while in dealing with the less usual type of pupil. As a step toward smaller classes for all children, they are invaluable. Once we begin to study the individual intensively by physical and mental standards, the number of those who deviate in some way from the so-called average begins to increase; they form a growing minority. The next point of attack is the course of study, which needs nothing less than entire reconstruction. Is it not time that we reversed the requirement that every child, no matter what his characteristics, should make good with the one and only, the sacred and inviolable, elementary public school curriculum? Now that we know more about the mental growth of the young human being than we once did, it seems reasonable to require that the curriculum shall also make good with the child. The present public school curriculum is related to the young child very much as those quaint and stiff adult costumes which infants wore in portraits by Velasquez and other court painters. These uncongenial habiliments, as Rousseau has pointed out, give the impression of a human dwarf rather than of a real child. So it is with the public school curriculum. Originally built and patterned for the adult, it has been cut down and reduced in size to approximate the proportions of a six-year-old child, who is then jammed into its inflexible shape and left to grow there with what comfort he can.

Grades mean nothing at present, and yet they are regarded as something sacred. A child in the fifth grade is considered more advanced than one in the fourth grade, and yet we know from experience that this is not always true. In actual practice we have found that a pupil in the fourth grade may show a fifth or a sixth grade achievement in one or more school subjects, while a fifth grade pupil may, similarly, show a third or even a first or second grade achievement. Our grading must be acknowledged to be highly artificial. But even if we had an ideal method of grouping pupils according to their academic ability, we should still find in each class too much disparity in ages. In a given group, pupils of eight years of age would be associated with some of fifteen or sixteen years. It may be said that such conditions do exist at the present time under the usual grading system; but from the point of view of social adjustments, these extreme differences in age are to be avoided. It seems possible to do this only by introducing a psychological classification early in the child's school life and conceding him in consequence a promotion every year. Eventually the non-promotion penalty should be entirely done away with.

Although all problems are not settled when children are properly graded, the psychological test is an instrument of great diagnostic value from the point of view of teaching school subjects. It furnishes the teacher with a vastly better chance of dealing with the problems of instruction and education in an enlightened way. It helps her to analyze and simplify a very complex and much beclouded situation. It compels individual attention to the child and respect and regard for differences. Carried through early, the psychological classification has the value of a preventive measure. It makes it possible to keep the bright pupils from marking time and to save the dull ones from useless failure and discouragement.

It is often asked by school people whether the individual psychological tests should be administered by a trained psychologist. An emphatic affirmative in reply is met by looks of surprise. Innumerable examples could be given to prove the value of this injunction. In the hands of unskilled school teachers, the test is not likely to give reliable results. The ordinary teacher is prone to be misled, by the seeming simplicity of the questions, into thinking that she can administer them without any special preparation. The training schools and universities offer courses in giving tests, so that it is possible for the teacher to prepare herself. But without real study and ample special training, any confidence in the results of psychological tests is out of the question. It seems to us from observation and experience that Terman himself takes too optimistic a view of the use of his tests by slightly trained teachers.

In spite of the manifest advantages, we do not wish to claim too much for the scientific and academic standards we have here advocated. All that these measuring devices can tell us is whether any individual is below, equal to, or above the statistical norm for his age or class. The scientific classification cannot pretend to do more than this; but if it does no more, this is a big step in advance of the chaotic methods of classification still commonly in use. It contributes to the solution of educational problems only as the introduction of a standard system of income measurements contributes to the solution of the problem of economic justice. Or again it is comparable to the discovery of scientific instruments for recording weather conditions, the barometer and the anemometer, which have not solved agricultural problems. It may still further be compared to the standard height and weight table in its relation to actual improvement of individual health. In many of our schools, teachers and supervisors are living in a pre-scientific age. We are still at a stage where physicians were a hundred years ago, in the blood-letting stage of our educational history; and as long as the public school continues to pride itself on its devotion to the old and its suspicion of the new, it is likely to remain an outstanding laggard in the march of civilization.

The mental classification is only the beginning of educational experimentations. The psychological test is not an excuse not to educate, but a useful indication of how to educate. The right of a child to an education should not depend on how much intelligence he has; this may determine the kind of education he needs, but not how much should be given him.

The criticism is sometimes made that the IQ may be fatalistically interpreted by the school as a license to shirk its job. As a matter of fact, the differentiation between the abilities of children really demands harder work on the part of the teacher than the old treadmill system. While previously the teacher suffered from not being permitted even to suspect the possibility of limited development in connection with a problematical child, for this was heresy not to be breathed to a supervisor, she is now compelled to confront such a possibility and do something constructive about it. The true faith used to be that all children, given the right educational environment, could be infinitely developed along the same intellectual lines. There was nothing in the sacred seventh grade curriculum which the teacher who worked hard enough could not be expected to teach to any child who worked hard enough. The idea that all of us have our intellectual limitations and that all children are not uniformly equipped has distinctly stiffened the job of the school and offers a definite challenge to the imagination of the modern teacher.

The psychological classification holds the school up to its responsibilities. Formerly the school received, for its results, credit that it did not deserve; likewise it was blamed for matters of which it was entirely innocent. The psychological test can help in many instances to reveal where the excellence or deficiency really lies. It creates, for the first time, an honest situation between the teacher and the school administration. The school knows the quality of its material and is able to judge the quality of the teacher's work; she is not asked to do the impossible. If the psychological test has been expertly and properly used, she knows approximately the child's mental status. This means, however, that she is only just ready to search out the causes of his difficulties in order to deal with them intelligently and efficiently. Her knowledge of what the tests reveal, permits her to take a professional attitude toward her work; it gives her technique some meaning. The best teachers are often developed through being placed in charge of dull or defective children. There they are relieved of the academic requirements and conventional methods and are put upon their mettle to find new paths. Such a teacher adopts an experimental and creative attitude towards her work, because she is deprived of the conventional supports and props which crowd the teacher of the regular class on every hand.

Those who have undertaken to guide the schools have been wandering in the dark because of an educational system which has so fixed its attention on intelligence only that nothing else has counted. The limitation of the psychological test at its best, is that it classifies children by intelligence only; but this is the declared limitation of the instrument. The school, on the other hand, values intellect alone without ever acknowledging the fact. Education has created an unreal being in the School Child, who has played the same part in pedagogical science that the Economic Man and the Political Man have played in economic and political science. The economic and political dummies have long since been swept off the stage by progressive thinkers in those particular fields; but that curious, intellectualized manikin, the School Child, still dominates our current educational practice although lip-service is paid to a more human ideal. No true education is possible until the whole child takes the place of the academic cross-section we now call a pupil. The school has yet to learn to look upon the child's intelligence as only one, if the first and most important, instrument of his adjustment to life. Hitherto it has been regarded as an end in itself and the sole focus of all educational effort.

The making of surveys by means of scientific and standardized tests is a growing practice in public education. These surveys usually come too late and are too purely statistical to be of much help to the individual. The education which a child receives during the first ten years of his life is the foundation of his future success or failure. Most of our actual teaching consists of re-education for the purpose of correcting wrong habits and attitudes established during earlier years. If the first year of school were devoted to the individual study of the child instead of to academic instruction for which he is not yet ready, his education might then proceed by progressive rather than corrective methods. This would be the exact reverse of our present scheme, which provides only blind mass teaching for the six-year-old child, while only later, if at all, is account taken of individual differences.

The accumulated retardation shown by aftermath surveys is accepted with far too much philosophy within the school itself. The teachers think it "natural" that some children in every class should repeat the grade. They represent the defeated minority, without whose existence the victory of the promoted ones would be lacking in savor. The spirit of competition does not belong to the educational process any more than it does to the family life of children. Yet so ingrained is the practice in the public school that even the teachers of Terman groups wished to hold back the pupils who stood relatively lowest in the class. Repeating of grades is the greatest crime against the educational development of the child that the school can commit. We think too much of retardation in statistical terms, striving, if we strive at all, for an irreducible minimum. What it means to the individual child to be a failure in school is overlooked. But it is from this point of view that the whole subject should be taken up and reconsidered.

There must be more elasticity and flexibility in courses of study as well as in methods of promotion if we are to attain any real measure of success in elementary education. We are not here pleading merely for more self-expression on the part of pupils, nor are we asking merely that the work shall be made more interesting to pupils according to their age and equipment. What we should like to stress most emphatically of all is the great need of reform in the curriculum itself.

The present idea of grade must be supplemented by a new grouping of years, in which the year-by-year idea of growth and progress is replaced by larger and more generous units of experience. The periods from six to nine, from nine to twelve, from twelve to fourteen years might well be used to reduce the number of anticipated goals and crucial moments. But while all these desirable improvements will aid the teacher by introducing more reasonable standards in formal subjects, there will still remain the fundamental problem of education — the personality of the child. There will always remain for the teacher the question of dealing adequately with the individual — with his purposes, attitudes, emotional stability, and all those most important traits that enter into the character and the spiritual life of the future adult.

The pressure for uniformity and conformity which is characteristic of public education is transmitted from above on downward in uninterrupted sequence. From the governing boards, down through the superintendents, the principals, teachers, it is finally passed on to the child with undiminished force. No experiment can go far unless the principal is willing to take the impact of this bureaucratic spirit and break the current before it reaches the atmosphere of the schoolroom. The teacher cannot be expected to do this; she has no feeling of power. But the principal occupies a strategic position between the school and all external powers, and he can either intensify the pressure or keep the system outside. It may be inevitable that all the overhead authorities of public education shall take an impersonal and businesslike attitude toward school matters; but for education to thrive there must be some place along the line where the system is held back from the growing child. The most liberal plan of teaching that has ever been devised must depend for its effectiveness on the individual teachers and principals who are in immediate contact with the children.

Usually there is, within the school itself, a business administration whose claims cannot be discounted. The clerical and office department in a large school is so important and so prominent that it has a tendency to dominate the educational function of the school. There is no escaping the fact that methods of classification and experiments with the curriculum such as we have proposed, entail an increased amount of clerical work. Every shifting of a child from a class where he doesn't belong to a class where he is better fitted means a definite mechanical process, which has to be carried on through the central office of the school. As soon as we attempt to introduce a more flexible method of grading, the clerical department is affected. If this office is not adjustable and coöperative, or if it is inadequately staffed, the educational part of the experiment begins to tremble in the balance.

Unless provision is made for this end of the work and unless the sympathetic coöperation of the office personnel is enlisted, a perfectly explicable failure may wait upon the experiment. In fact, everyone inside the school in whatsoever capacity employed must be included in the plan. One of the chief virtues of an experimental school is that it induces all those connected with it to lay aside automatic attitudes and substitute real ones. The typical civil-service functionary has no place in a genuine educational program.

The need of experimental schools not merely outside, but within the system of public education, grows constantly more pressing. And the answer is not to be found in the multiplication of experiments in private schools. The methods described in the foregoing chapters are adaptable to much smaller organizations, down to the one-room schoolhouse. Adaptation to a larger school need not be discussed, for probably few larger ones exist. Certainly, they should not. The next step to be taken after reducing the size of classes is to reduce the size of schools.

An improvement over the method of classifying a single school would be the use of a whole district as a unit. In the large cities there are excellent opportunities for such a classification. The average school district of New York comprises about 1000 teachers, and 40,000 children. Many of the districts are not very large, in area, so that children would not be required to walk unreasonable distances. The advantages of classifying the fourth or fifth grade when there are two or three thousand children in a single grade are clear. It would then become possible to specialize the different school buildings in certain directions. The public school is destined to develop much wider variety of activities than are now considered possible. Not all of these activities need to be located in one building, but different buildings would take on character according to their respective functions. The absence of color and variety in the typical school building is a part of the general educational tradition which estimates uniformity as the supreme virtue of public education. Any individualizing of the schools in the direction of specialization would be a visible symptom of regeneration.

One of the objections often raised by opponents to the use of standardized tests as the basis of classification and grouping of children is that the method is undemocratic. It is sometimes asserted that scientific measurements lead to educational determinism, in which pupils will be treated as belonging to definite strata of society and a caste system based upon intellectual stratification will result. If children are classified by psychological tests in school, they argue, it will ultimately be hopeless for anyone to rise out of his or her particular level in the social structure. So far as the children in our school were concerned, the effect was just the opposite of anything which might be called educational determinism. The appreciation by the teachers of individual differences was stimulated by the method of classification used. Evidence of this is seen in the number of special classes which were formed in response to the recognition of the special needs of small groups of children.

It was long ago pointed out by Mr. Sidney Webb, the English economist, that the ideal of a single undifferentiated school is no longer the democratic ideal. The common school was established as a means of getting rid of purely artificial class distinctions in education. Says Mr. Webb:

> We do not today, in any highly organized community, provide or expect to have provided, any monotonous array of such common schools.

> We recognize now that children have infinitely varied needs and capacities in education. Where many thousands of children are together in the same locality, we have learnt how to avoid the more atrocious of the misfits that were involved in the common school. . . . The "schools for all," for which Bentham, and James Mill, and Francis Place strove a century ago, have become differentiated into dozens of different kinds of schools for differently situated groups of children. What was originally a common universal provision has become a highly specialized meeting of the needs of a series of minorities — many of them quite small minorities. And the end is not yet. We don't yet know how to provide each individual child with exactly the kind and grade and amount of education that its individuality requires. This, however, and not "common schools" has already become, in education, the democratic ideal.[1]

Further remarks of Sidney Webb on the subject of government we quote here, as they are equally applicable to public education.

> As it is coming more and more to be the business of government to deal with minorities, to provide what is required for minorities, to legislate for minorities, because minorities are what the people as a whole is composed of, so we are discovering in one department of life after another, that it is upon the specialized scientific treatment of minorities — often of quite small minorities — that social well-being depends. . . . My first proposition is, therefore, the paradoxical one that, whilst it may have been the most pressing business of nineteenth century governments to deal with the whole people, or, at any rate, with majorities, by far the most important business of twentieth century governments must be to provide not only for minorities, but even for quite small minorities and actually for individuals. . . . Class legislation, in short, is not only not bad, or wicked, or undemocratic, but actually the only good, the only useful, and the only really effective legislation. Of course it is not necessary to confine legislative advantages to one minority any more than to one individual. Every minority — every citizen, in fact, has to be supplied, under the one system as under the other, just as every soldier in the regiment has to have his suit of clothing and his pair of marching boots. Only, on the one method, the fit is so bad that the soldier is galled, and his marching and fighting capacity falls far short of what can be attained. On the other hand, an improved fit so much increases freedom of action that both comfort and efficiency are greatly increased.

It is but a superficial view of democracy in education which insists on a single rigid academic curriculum for thousands upon thousands of individual children. To correct this view, not only in theory but in practice, was the first aim of our experiment. It begins to yield at once to the influence of the psychological classification. If in addition, the school is fortunate enough to have a psychiatrist, the psychological light upon the individual is greatly heightened. The visiting teacher brings with her also an individual view, for the technique of the new profession of social work is still an individual technique. The social worker has at her command the method called case-work, which presupposes an intensive study of the particular human being concerned.

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[1] Webb, Sidney. "The Necessary Basis of Society." *The Contemporary Review*, June, 1908.

Now this is just the attitude which the teacher has been consistently trained not to assume. She has been fortified with impersonal methods of teaching the subject-matter of the course. If a conflict then arises between the child and his arithmetic, she has been prepared by every tradition of her profession to take the side of the arithmetic. In short, she has been primarily trained to handle a class, while the social worker has been primarily trained to handle a case. The rapprochement needed here is obvious. If the school could assimilate the technique of social work sufficiently to handle children as individuals before they put themselves in the situation where they are regarded as suitable objects of case-work by the social worker, it would be a great step towards educational progress.

And progress is not an optional affair in public education; it is imperatively demanded. The changes in the background, economic and social, of school children, the advancements of science in other fields of life, have caused our present methods of school teaching and school organization to be an anachronism. Additional obligations have been successively laid upon the school itself, which is now confronted by the responsibility of keeping all children in school until their sixteenth year. Responsive to its new duty, the public school comes before the public with stay-in-school campaigns and grapples daily with the sheer problem of numbers which, with every temporary solution, springs up again with greater demands.

But all these public efforts, energetic as they are, are far from sufficient. The greatest effort of all must be made in school and behind the scenes. The process of adaptation which is needed in order to make the school a congenial place for all these children is not a thing to be postponed. Symptoms of our mismanagement of childhood confront us on every hand. The brightest children are the most retarded of all the pupils. The dull pupils are the most accelerated. There is such a thing as education beyond the abilities of pupils, resulting in the most pernicious antisocial habits. Our schools are the greatest agencies for increasing juvenile delinquency, adult criminality, and unemployment, that we have yet devised. It may be reasonably assumed that very few pupils are congenitally antisocial or perverse. There are doubtless some who have within them the seeds of hopeless insanities, but they are rare exceptions. Of those who issue from the public school stamped as "bad" or "wicked" individuals, a goodly proportion may be considered as having been educationally mishandled and mistrained. We are willing to go to the extreme of holding that the schools are really responsible for every unfavorable outcome of the child's education. His shortcomings in school and outside should be charged up to the school. Unless we believe this and act upon its implications, there is no way of advancing through public education the best interests of society.

It will naturally be objected that the schools cannot shoulder the entire responsibility for existing conditions. It will be said that society itself, its economic, ethical, and physical conditions, are fundamental causes over which the school has no control. Then again the home and the parent are powerful factors in the child's development. While all these objections are true, it is obvious that the only hope, or at least the most fundamental ground for hope, lies in the schools. Their influence is so far-reaching that there is no practical use in defining boundaries. To shape the thoughts and actions of the next generation of adults is to build a long, unbroken road into the future. Looking a little further into that future than we have hitherto done, let us picture a new education for our guidance — an education in which school conditions, subjects and methods, are all rearranged in their true relations. We shall not then judge the success of the child's education by his acquisition of facts in geography, history, and arithmetic, and his skill in penmanship and spelling. While these may continue to be necessary instruments in modern civilization, we shall recognize them as mere instruments and judge the real value of an educated people by the uses to which these instruments are put. After all, motives, purposes, and ideals must ever be the real signs of a successful life. Ability to meet new conditions intelligently and effectively, to fashion new tools when the old ones no longer do the work, is the one sufficient evidence of genuine education.

APPENDIX A

COMPARISON OF SCHOOL AND ARMY RESULTS

The question arises, How far does the intelligence of the pupils in our experimental school deviate from that of the population in general? Judging from the results obtained by Terman in measuring the intelligence of 905 American-born children in California, our group does not measure up.[1] If, however, we compare our results with the results of the psychological testing in the army, our school has the higher level of intelligence. The median mental age of the army was but little over 13 years, according to the Stanford-Binet tests made on 653 men and according to the group tests made on nearly 100,000 men. If, as the figures show, 13.25 years is the median mental age of the army, the median IQ of the army (using 16 as the chronological age of the average adult) would be 82.5. In Public School 64, the median IQ of the six-year-old children was 93.46, according to Stanford-Binet tests; and in the upper grades, according to the group tests, it was 94.29. If we continue to hold to 16 years as the standard for the average adult, the level of intelligence among the children in our school was considerably higher than in the army, the difference in IQ amounting to ten points.

It is a question, however, whether this comparison of IQ's is legitimate. Terman has himself been obliged to reconsider the point at which the mental age of the average adult should be placed. He says:

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[1] Terman, Lewis M. *The Measurement of Intelligence.* Houghton Mifflin, Boston, 1916. Page 66.

> It has become evident, from the results of psychological work in the army, that "average adult" intelligence is considerably lower than the score of 16 on the Stanford revision. Because of the numerous factors of selection operative, I hesitate to venture an estimate as to what the real average adult score is. I do not think it is below 14, but I doubt whether it is much above this figure. Even if the true "average adult" score were known, this, of course, would not tell us exactly at what point mental growth ceases, because there is still the question of determining the true average score for unselected children just below the age of maturity. I believe that the peculiar and unsatisfactory conditions under which the army tests have been made tend to make the average score of the recruit lower than it would be under normal testing conditions.[1]

If the median IQ of the army is computed with 14 years as the chronological age of the average adult, it falls somewhere between 93 and 94, which would correspond to the median for our group of public school children. We offer this comparison for whatever light it may throw on the following statement of the army psychologists:

> Undoubtedly the intelligence of the draft is somewhat lower than that of the country at large, although it is quite unlikely that the difference should be so great (3 years, or the difference between 13 and 16). . . . In general then we are forced to reply to the question, "How intelligent is the Army?" by stating arbitrary figures that refer to the draft itself, and by arguing further that the draft is approximately a representative group which is presumably, however, a little lower in intelligence than is the country at large.[2]

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[1] Statement by Terman, dated August 20, 1918, quoted in *A Study of Women Delinquents in New York State*, by Fernald, Hayes, and Others. The Century Company, New York, 1920. Pages 418–419.

[2] *Psychological Examining in the United States Army*. Memoir of the National Academy of Science. Vol. 15, page 786.

APPENDIX B

A PROGRAM OF PHYSICAL EXERCISES USED IN CARDIAC CLASSES

These Educational and Hygienic Exercises, as the terms are applied in public school systems, are examples of the type of exercise to be used in alternation, so as to change the groups of muscles employed.

The number of times and the vigor with which the exercise is done will increase the effort required of the heart. The teacher must use judgment with regard to the effect on individual cases. The children must be taught to discontinue exercising at any moment subjective symptoms become marked. The exercises and other physical activities should be directed and supervised by a trained instructor. No child should be permitted to take the exercise when he shows abnormal circulatory or physical reactions as a result.

DRILL I — Duration 15 minutes.

1. Hands on shoulders — Place!
    - (1) Stretching left arm upward, right arm downward; hands on shoulders; stretching right arm upward, left arm downward — Begin!
2. *Name* — Point step forward left, arms forward; point step sideways left, arms sideways; point step backward left, arms upward.
    - (1) Point step forward left, raising arms upward — One!
    - (2) Point step sideways left, arms sideways (palms up) — Two!
    - (3) Point step backward left, arms upward — Three!
    - (4) Replacing foot, arms forward, downward — Four!
3. Hands on hips — Place!
    - (1) Deep knee bending — One!
    - (2) Stretching knees — Two!

    This exercise should be taught to response commands, and after it is thoroughly learned, should be done in rhythm. Then the exercise is — Hands on hips — Place!

    (1) Deep knee bending — Begin!

4. *Name* — Raising arms sideways; bending trunk sideways.
   (1) Raising arms sideways — One!
   (2) Bending trunk sideways, left — Two!
   (3) Trunk erect — Three!
   (4) Position — Four!
   Same right. Alternate.
5. Arms sideways. Trunk to right — bend. (Repeat to left.) Trunk raise.
6. *Name* — Placing left foot sideways, arms sideways; bending trunk forward, bending left knee, touching left hand to left toe, right arm forward.
   (1) Placing left foot sideways, raising arms sideways — One!
   (2) Bending trunk forward, bending left knee, touching left hand to left toe, right arm upward — Two!
   (3) Same as (1) — Three!
   (4) Position — Four!
   Same right. Alternate.
7. (1) Raising heels and arms sideways — Begin!
8. Hands at side of shoulders — Place!
   (1) Stretching arms upward; hands at side of shoulders; stretching arms sideways (palms up) — Begin!

DRILL II — Duration 10 minutes additional, making 25 minutes in all.

1. (1) Placing left foot sideways, bending arms at shoulder level — One!
   (2) Position — Two!
   Same right. Alternate.
2. Hands on hips — Place!
   (1) Bending head backward (slowly) — One!
   (2) Raising head (slowly) — Two!
   Repeat.
3. (1) Deep knee bending, raising arms sideways — Begin!
4. (1) Placing hands behind neck — One!
   (2) Bending trunk sideways — Two!
   (3) Trunk erect — Three!
   (4) Position — Four!
   Same right. Alternate.
5. Hands on hips — Place!
   (1) Raising left leg forward — One!
   (2) Lowering left leg to position (slowly) — Two!
   Same right. Alternate.
6. Hands on hips — Place!
   (1) Springing feet sideways — Begin!
7. Hands on hips — Place!
   (1) Raising left leg sideways (slowly) — One!
   (2) Position — Two!
   Same right. Alternate.
8. Hands on shoulders — Place!
   (1) Raising heels, stretching arms upward — Begin!

Drill III — Duration 5 minutes additional, making 30 minutes in all.

1. (1) Clapping hands over head — One!
    (2) Raising left knee, clapping hands under left knee — Two!
    (3) Replacing left foot, clapping hands over head — Three!
    (4) Hands on hips — Four!
    Same right. Alternate.
2. Hands on hips — Place!
    (1) Hopping twice on each foot, starting left — Begin!
3. Prone fall position. Walk forward. Forward jump. Stand.
4. Hands on hips — Place!
    Raising knees upward, alternating, starting left in quick rhythm — Begin!
5. Raising heels, arms sideways — Begin!

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